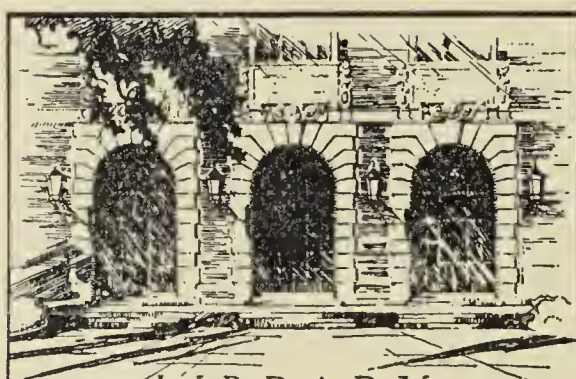


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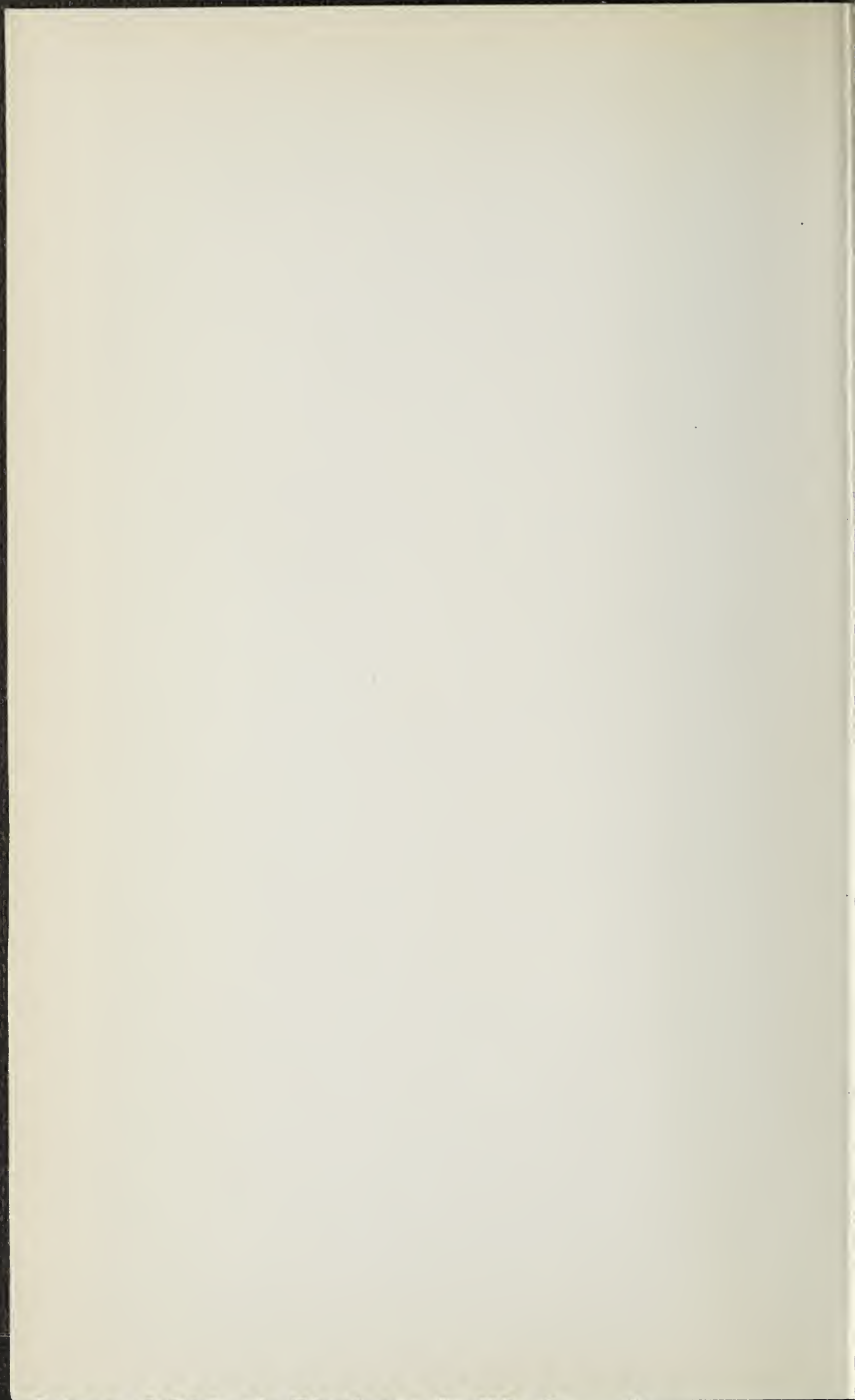
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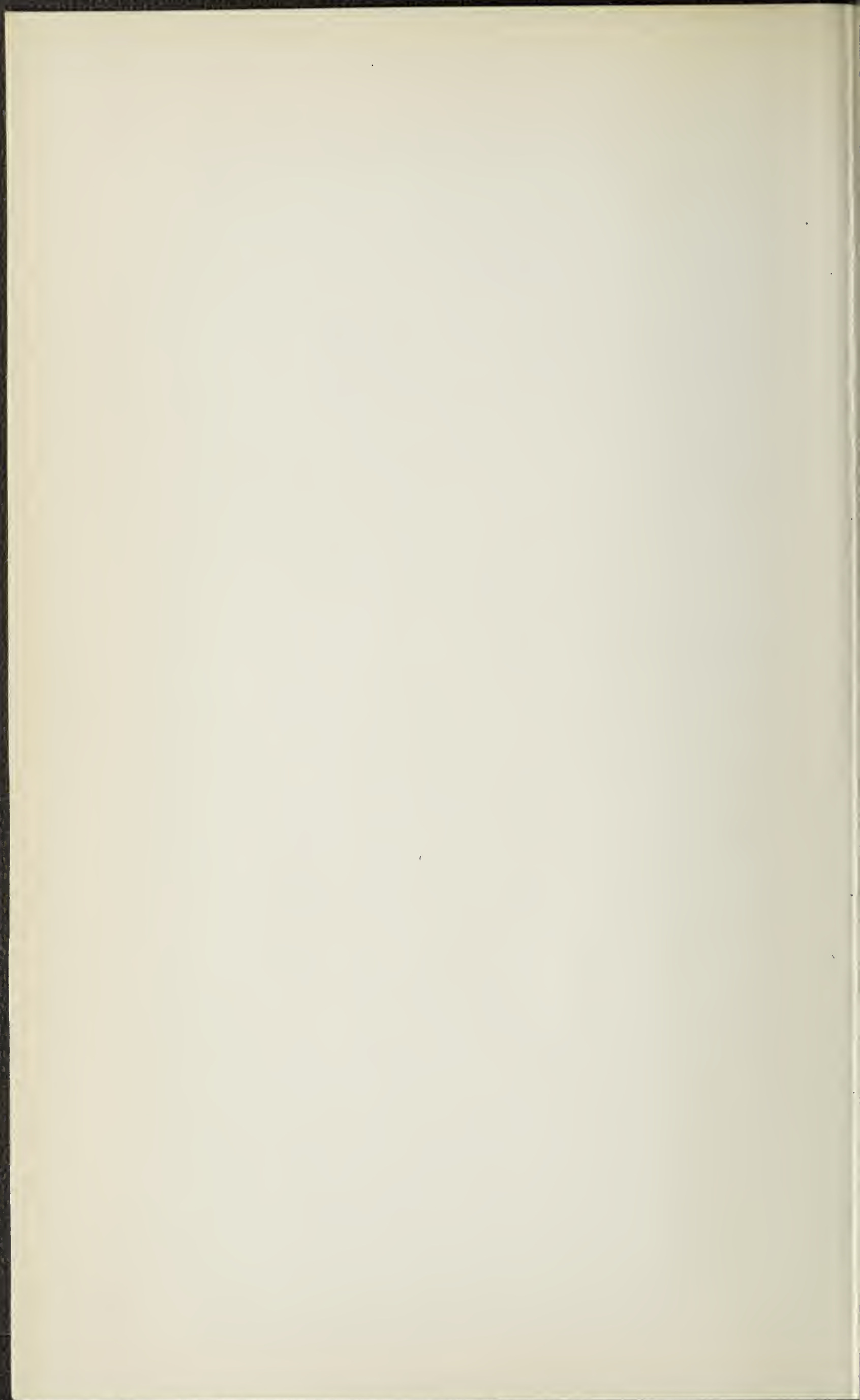
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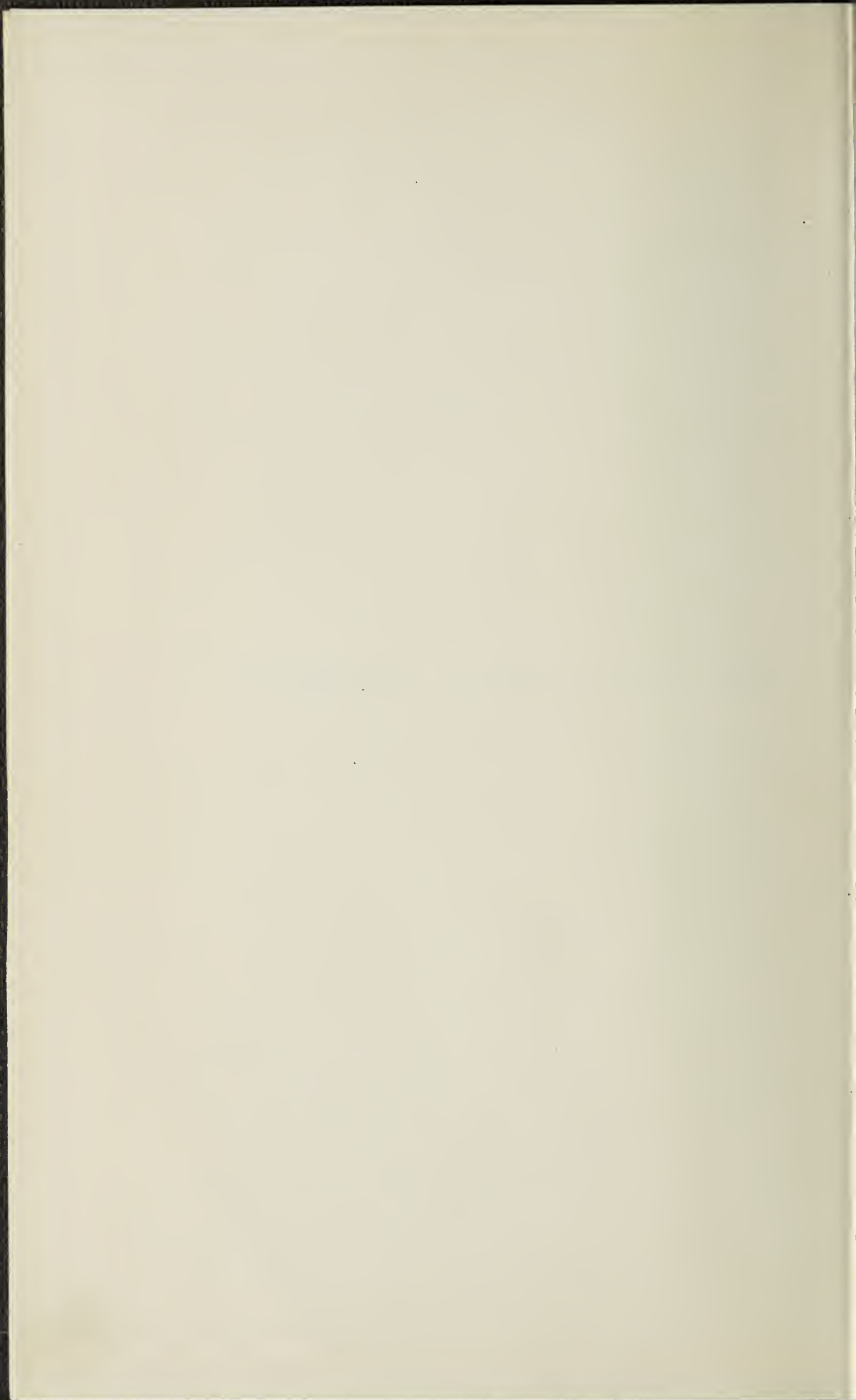
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THE AVICULTURAL MAGAZINE



THE AVICULTURAL MAGAZINE

BEING THE JOURNAL OF THE
AVICULTURAL SOCIETY FOR
THE STUDY OF BRITISH AND
FOREIGN BIRDS IN FREEDOM
AND IN CAPTIVITY

EDITED BY
DAVID SETH-SMITH, F.Z.S., etc.

FOURTH SERIES. VOL. V.
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REPORT OF THE COUNCIL FOR 1927

It is satisfactory to be able to record that the year 1927 has been a record in the annals of the Society. In the February number of the MAGAZINE will be found a Note, kindly furnished by Mrs. Prestwich, on the last record year, 1909, when the Society's membership reached 451. The present year brings the membership up to 529.

The MAGAZINE, under the able editorship of Mr. Seth-Smith, has now attained a very high standard, and we have issued with this volume ten coloured plates. We are very glad to find more members making use of the Correspondence column of the MAGAZINE, for it is here that one of its chief uses may be found. We beg to tender our best thanks to all who have helped to further the interests of the Society, and especially we should like to mention the following who have given coloured plates, defraying the cost of both artist's fee and reproduction costs: Lord Tavistock (*Barnardius crommelinae*), Mr. Ezra (Renauld's Ground Cuckoo and the Yellow-breasted Cissa). We again offer our best thanks to Miss Chawner for the translation from the French of many articles, and to Mr. Newman for managing the Sale and Exchange column, and at the same time we wish to express our appreciation of the work done by Mr. Hicks in making *post-mortem* examinations of a large number of birds sent him by our members.

(Signed for the Council) E. MAUD KNOBEL,
Hon. Secretary and Treasurer.

December, 1927.

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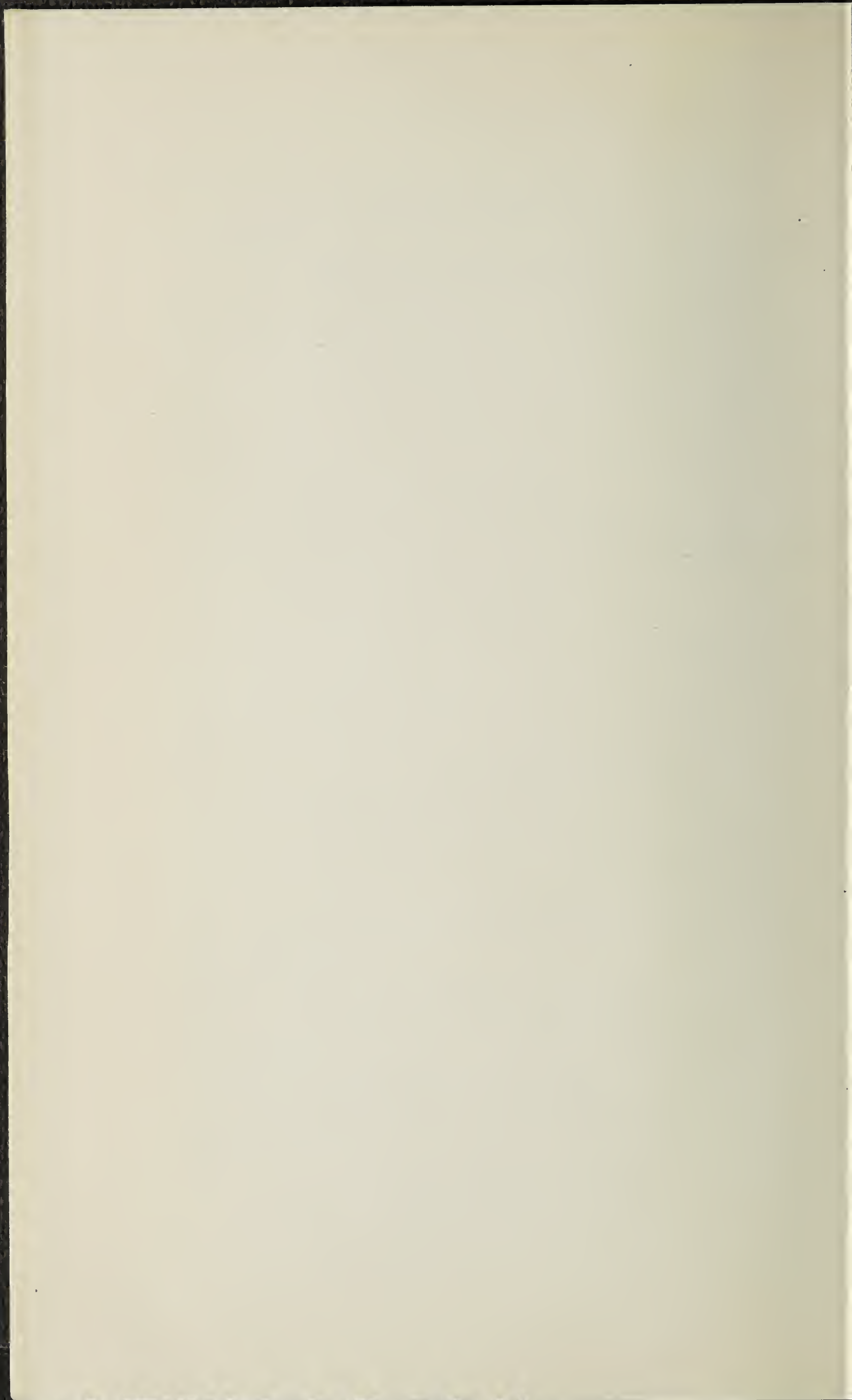
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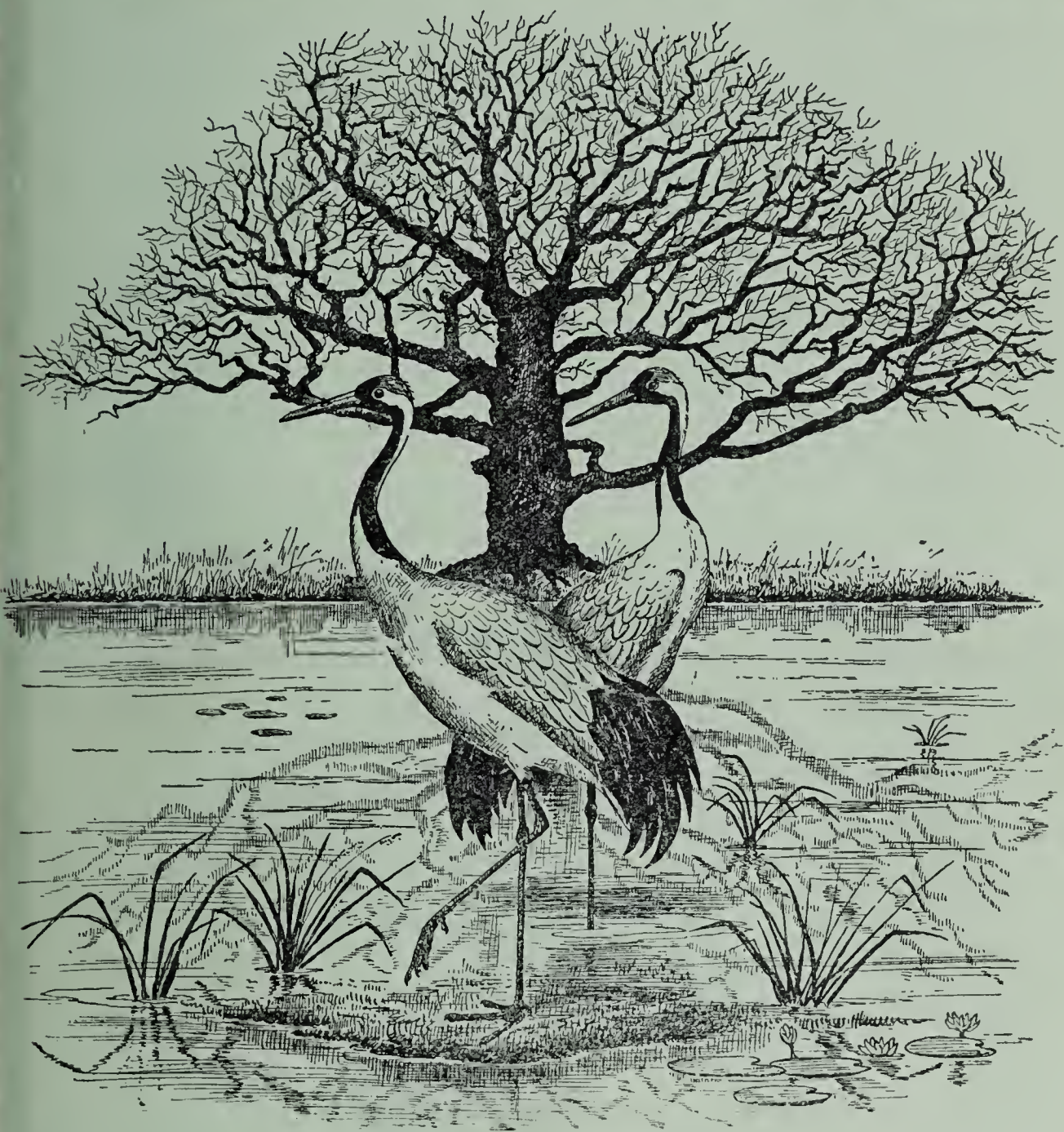
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THE
Avicultural Magazine



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NOTICE TO MEMBERS

The Subscription to the Avicultural Society is **£1** per annum, due on the **1st** of January in each year, and is payable in advance. The entrance fee is **10/6**. The *Avicultural Magazine* is sent free to members monthly. Members joining at any time during the year are entitled to the back numbers for the current year, on the payment of entrance fee and subscription.

ALL SUBSCRIPTIONS SHOULD BE SENT TO THE HONORARY SECRETARY AND TREASURER, MISS KNOBEL, 32 Tavistock Square, London, W.C.1.

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POST-MORTEM EXAMINATIONS.

Rule 1.—A short account of the illness should accompany the specimen. All birds to be sent as fresh as possible to Mr. C. H. HICKS, The Prosectorium, The Zoological Society of London, Regent's Park, London, N.W. 8.

Rule 2.—Should any member require an immediate reply, a stamped addressed envelope must be enclosed with the bird.

Rule 3.—No body or skin of any bird will be returned under any circumstances whatever.

Reports have been sent by post to :—W. Shore Baily, G. Beever, C. Best, Mrs. Cottrill, Mrs. Henry Denny, Dr. G. Elphick, A. Ezra, J. Newton Hayley, B. Mott, Mrs. F. A. Procter, A. Sutcliffe, Mrs. Travers.

The Magazine is published by Messrs. STEPHEN AUSTIN & SONS, 5 Fore Street, Hertford, to whom all orders for extra copies, back numbers for 1917 and after, and bound volumes (accompanied by remittance), should be addressed. *Current* Monthly Numbers **2/-** each (except in special cases, such as the Number containing the List of Members, Index, etc., when the Committee may increase the price), by post **2/1**; for back numbers a higher price is charged according to circumstances. Cases for binding the Magazine (in art cloth, with gold block on side) can be obtained from the Publishers, post free and carefully packed, at **3/-** each; or the Publishers will undertake the binding of the Volume for **5/6**, plus **9d.** for packing and postage. Members are requested to state whether they want the wrappers and advertisements bound in at the end or not. Telephone: 46 Hertford.

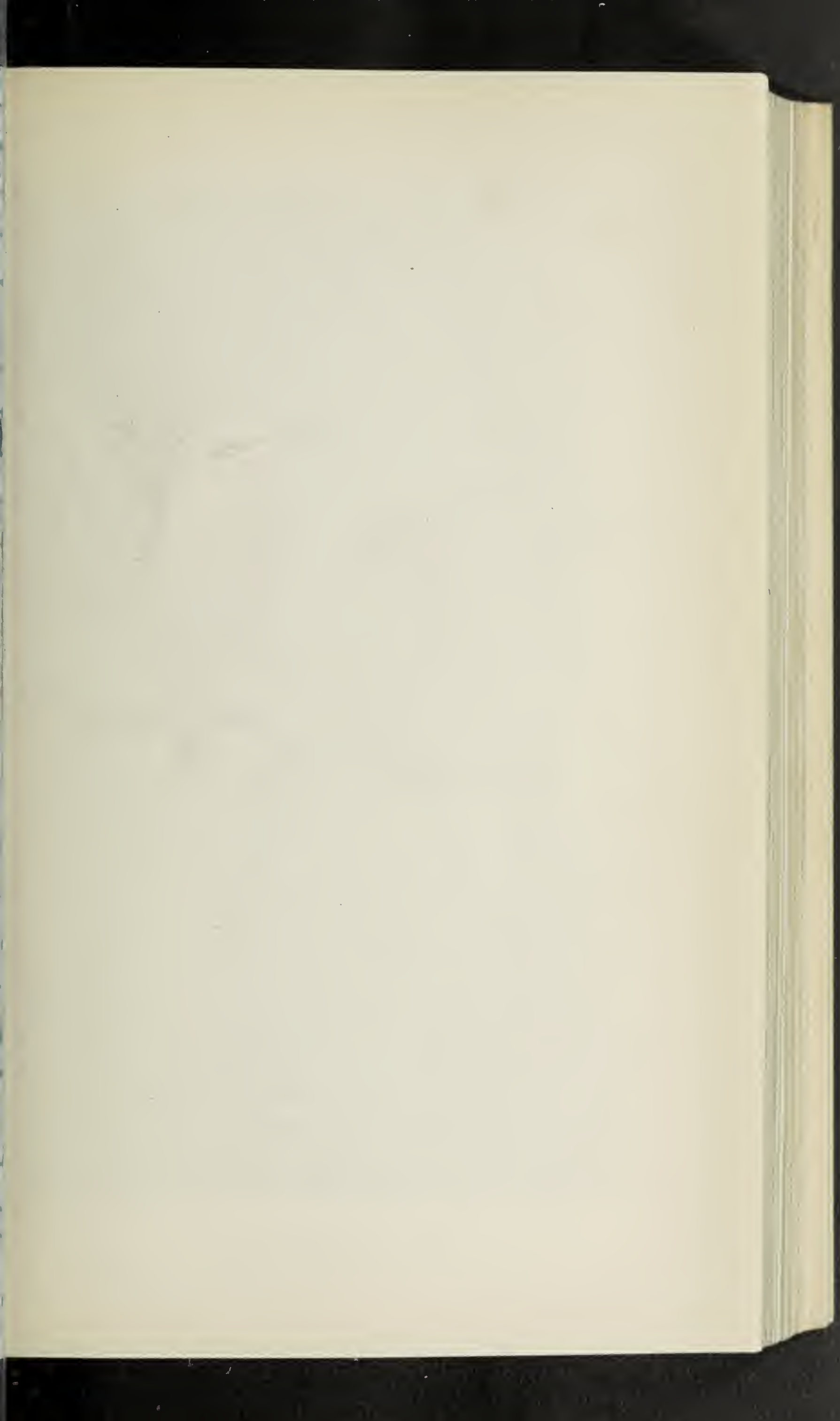
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MR. D. SETH-SMITH,
Zoological Society,
Regent's Park, London, N.W. 8.





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*White-fronted Bee-Eater,
Melittophagus bullockoides.*

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BEING THE JOURNAL OF
THE AVICULTURAL SOCIETY
FOR THE STUDY OF
FOREIGN & BRITISH BIRDS
IN FREEDOM & CAPTIVITY

Fourth Series.—Vol. V.—No. 1.—All rights reserved.

JANUARY, 1927.

THE WHITE-FRONTED BEE-EATER

The White-fronted Bee-Eater, known to science as *Melittophagus bullockoides* or *albifrons*, belongs to the group which has the tail neither forked, as in the genus *Dicrocercus*, nor elongated as in *Merops*, but square. It inhabits South Africa from Natal to the Zambesi, extending into East Africa, and appears to be a resident species in those districts in which it is found. Its food consists of diurnal winged insects, especially small beetles, the wing-cases of which are subsequently ejected.

These Bee-Eaters are said to be found near water, singly or in pairs, perched on twigs on the look-out for insects which are always captured on the wing. They make deep nest-holes in sand-banks, and are said to use such holes for sleeping as well as nesting quarters.

Five specimens of this very beautiful Bee-Eater were brought home by Mr. Webb in June last for Messrs. Gamage. They were probably the first examples of the species to be imported to Europe. The splendid condition in which they arrived showed Mr. Webb to be a master in the art of caring for difficult birds, for Bee-Eaters are certainly by no means easy birds to keep. Captain Stokes secured a pair, of which he gave us a very interesting account last October, and Mr. Ezra the remaining three. I was privileged to see these birds in their owners' aviaries last summer, and more delightful birds one

could not wish to possess. But the secret of keeping Bee-Eaters successfully is to be found in the ability of their owner to keep up a plentiful supply of live insects, and this is difficult, if not impossible, during an English winter. Mealworms, when thrown into the air, are captured with great precision, and during the warm months of the year every fly, bee or wasp that enters the aviary is caught and swallowed, and a piece of meat, hidden in some shrub, will attract an endless supply of blue-bottles. But when winter comes the difficulty commences. Having fed during the summer months on an abundant supply of live food, these birds do not readily take to artificial food and, unless fed four or five times a day with mealworms, will probably come to grief. And it is a question whether mealworms alone will maintain any bird in health indefinitely. Bee-Eaters have not often been kept in captivity, so we have very little experience to go upon. In the Zoological Gardens a pair of Australian Bee-Eaters (*Merops ornatus*), obtained in the spring of 1911, lived in splendid health throughout the summer in an outdoor aviary. They were taken into the Small Bird House for the winter, which they survived, and again spent the summer of 1912 in the outside aviary, but both died in the autumn of that year.

D. S-S.

THE SMALL BIRD HOUSE AT THE ZOO

By CAPT. D. S. STOKES

The pleasant winter task of reading through the AVICULTURAL MAGAZINE for the last twenty years brings to mind that whereas a good deal was written in former days about bird-keeping at the Zoo, little has recently appeared on the subject in the Magazine. And as the Small Bird House at present contains a very choice collection of birds, some remarks may not be inopportune.

In the first place let no one think they can't keep birds there. They can and do. You can see a Jackson's Whydah which has come gaily into colour for eighteen years, a Golden Hangnest caged eleven years, and many other old friends.

It is, of course, primarily an exhibition in which as many species

as possible are displayed for the pleasure of fellows and the general public, so that the birds are very numerous, though not crowded. And if at the end of the day the cages look dirty and untidy it does not mean they are not properly kept. When Shamahs are fed on showers of monkey nuts, when Toucans are proffered buns complete with paper bag by a well-meaning public, how can tidiness be maintained? Rather let us be thankful that the birds do not die of fits from such misguided attentions. No; but go into the bird house in the early morning (if they will let you), when feeding and cleaning operations are in progress, and you will see the care and attention that all the birds receive. Every cage and aviary is scraped and swabbed and sponged as clean as a new pin; the food is of the best, and by eleven o'clock all is ready for the visitors. And here let me acknowledge a debt of gratitude I owe to all the people responsible for the birds. However busy they may be, however silly the questions I ask, the three keepers, Tanner, Raggett, and Woods, are always kind and attentive and helpful. To return to the birds; pre-eminent is the series of Paradises. There are now eight species of these, all the fruits of Mr. Goodfellow's two recent trips to New Guinea. For rarity and splendour the Prince Rudolph's or Blue Bird takes pride of place. Its lovely turquoise back and wings are but a prelude to the glorious opal plumes, like filmy seaweed, which are to follow when the bird shall reach maturity. The Princess Stephanie's was recently illustrated in these pages; there are a pair of Greater, a splendid red-plumed Raggi's, a Hunstein's Magnificent, a King Bird, and a Lesser Superb with wondrous pectoral shield, who will display almost for the asking, changing himself from a bird into a catherine-wheel of black velvet and emerald and aquamarine, and riveting your attention by a loud whacking noise mysteriously made by some movement of the legs and tail. There is a Wallace's Paradise, discovered in 1858, and described in that great book *The Malay Archipelago*, but never till now imported alive. At first sight it is an ugly bird, but doubtless wonderful in display. More plainly coloured than the rest of the tribe, it has a large green pectoral fan and from each shoulder two long cream pennants which can be raised at any angle.

The Toucans are there in force. A Toco from Guiana with incredibly huge orange beak spotted with black, replaces the late lamented

“ Billy ”, the well-known Toco from Wembley, who used to fly loose in the British Guiana section.

There are three Red-billed, two Ariel, three Green-billed, and a Sulphur-breasted which has never looked otherwise than perfect for the last seven years.

Hornbills come next in four species ; the White-crested from West Africa, like an old lady with a lace cap and black brocaded dress, the Black and White, the Undulated from Sumatra, and the Great Indian Hornbill. He is the largest bird in the house, an ungainly creature of some 4 feet, wearing a cardboard fireman's helmet and appropriately called “ Baby ”, but gentle as a lamb. With his huge bill he will take a grape as delicately as you could wish from between your lips, swallow it, and then even offer it to you again if he likes you.

Barbets include a Lineated, a Javan Great-billed, a handsome species with yellowish green head and a red throat, and a very attractive small one called the Crimson-breasted, known in India as the Copper-smith.

Of Touracos there are a Violaceous Plantain-eater, recently brought from the Gambia by Dr. Hopkinson, a Frazer's, some Donaldsons, and some White-breasted, demure grey and white people, lacking the lovely colours of other races of Touracos. Rollers include the Blue-breasted, a beautiful species from Gambia, some European, Indian, and Senegal, as well as an Indian Broad-billed. The lovely Long-tailed South African is not at present represented, but the last specimen lived six years.

Other interesting occupants of cages or indoor aviaries include Bengal Pittas, Guira Cuckoos, and a Solitary Cuckoo from Africa, Verreaux's Amethyst Starlings, some Chats, and two species of Sugarbirds.

Tanagers are not as well represented as in years gone by, but rare species seem to come over so seldom. However, there are the Desmarest's, green with a red head, the Yellow, the Superb, and one or two other small ones, and among larger species two very beautiful White-capped Tanagers. Birds of deep indigo blue, shading up to white on the head, in the midst of which is a crimson blotch. Living in the five central flight cages are birds arranged more or less by size. Two of small Finches include a Blue-billed Weaver, a Hooded Siskin, Red-

crested Finches, and Parrot Finches of two species. Of larger soft-bills there are a Regent Bird, Blue Robins, Indian Great Reedwarbler, a Coach-whip bird from Australia, numerous Bulbuls and Babblers, and a very attractive Glossy Calornis from New Guinea, green with brilliant ruby eyes and beautiful copper and purple reflections on the head and back. There are also superb Spreos and Royal Starlings from Abyssinia.

The five southern aviaries with outdoor flights contain a large mixed collection. In one a Stilt from South America, a Blacksmith Plover from South Africa, very smart in plumage of grey and black and white, and Yellow-backed Whydahs. The next compartment has Roulrouls, a wonderful ground Pigeon called the Grey-naped, as large as a Pheasant and of similar shape and gorgeous colouring; Pied Grallinas, which built a nest and laid eggs, beautiful Spreos, and a pair of Regent Birds.

Fruit Pigeons come next, though only three species are represented at present.

Another compartment has a pair of Sun Bitterns, and a Wood Thrush from North America, and the last contains various Bulbuls, Cedar Birds, Baltimore Hangnests, a Hermit Thrush, and Red-collared Whydahs.

Altogether the collection numbers close on a thousand birds, truly a Mecca for aviculturists. The very noises are a delight to me. The yapping bark of the Toucans, the crow of the Touracos, the ringing wauk-wauk of the Greater Paradises and the silly Mynahs imploring you to tell the time. The house is condemned to be pulled down to make way for the large new ape and monkey house, and the birds are to be transferred to the old reptile house, where, let us hope, the authorities will provide as good quarters and as attractive a display as we have at present.

AMERICAN BIRD GOSSIP

(Concluded from Vol. IV, p. 139)

By JAMES B. HOUSDEN

The Ivory-billed Woodpecker (*Campophilus principalis*) is in size, though hardly in beauty, the Prince of Woodpeckers; its length ranges from 19 to 21 inches. It is found in Western Mexico, north along the Sierra Madre.

The Ivory-billed is rare, almost restricted to the extreme southern states, especially those bordering the Gulf of Mexico. It is of a wild and wary disposition, making its home in the dark swampy woodlands, the dense cypress swamps of Florida being among its favourite haunts.

The nest of the Ivory-bill is built in a hollow excavated in a tree, from 30 to 40 feet from the ground, the cavity often being nearly 2 feet in depth. Three or more eggs are laid.

This bird does not remain long in one place, and during the day ranges over an extended territory. Its call, "Yap-yap-yap" sounds in the distance like the note of a small trumpet.

All Woodpeckers are of value to cultivators and farmers, two-thirds of their food consisting of insects, chiefly noxious wood-boring beetles, both adults and larvæ, caterpillars, mostly species that burrow into trees, and ants, which are particularly harmful to timber. In Mexico I found countless swarms of both red and black ants everywhere and was not able to sit down and rest on any fallen tree. One day I put my hand into a very beautiful nest—found no eggs, but my hand covered with ants. In one of the gateposts on the plantation a pair of English Sparrows had reared young ones; their last nest of young ones I found all dead, killed by the ants.

The Downy Woodpecker (*Dryobates pubescens*) is the smallest of all those inhabiting the Gulf States. I met with it almost everywhere, it being very sociable in its habits, far more so than other species, and often found in company with the White-breasted Nuthatch and the Brown Creeper.

Early in the spring the "Downies" seek out their nesting places. Their holes are usually excavated in dead willow-, poplar-, or oak-trees. The entrance to the nest is about 2 inches in diameter, and the depth of the nest hole varies from 8 to 12 inches. The eggs are four or five, sometimes six in number, and are pure glossy white.

The Red-bellied Woodpecker (*Melanerpes carolinus*) is one of the most beautiful of the twenty-five species of American Woodpeckers. This bird is known in many parts as the "Zebra Bird", from the black and white markings of the back and tail; head and breast scarlet in the male; the female only partly so.

The Blue-grey Gnatcatcher (*Polioptila cærulea*) is found almost

everywhere in the southern states, inhabiting chiefly open, high woods, skipping and darting about among the topmost branches of the trees, his long tail elevated and jerking in Wren-like fashion, always moving about and ever uttering his wheezy squeaky notes.

This bird is a most beautiful nest builder ; the nest, in fact, having few equals. It is rather a frail structure, usually built on the small horizontal limbs of trees, generally at an elevation of about 10 to 20 feet. The interior is deeply cupped, and the exterior is beautifully ornamented with lichens. The eggs are four or five in number, greenish or bluish white, speckled with chestnut.

The Yellow-breasted Chat (*Icteria virens*) is one of the largest of the Warblers, often called the Yellow Mocking-bird. In the mating season he is the noisiest bird in the woods. At this time he may be observed in his wonderful aerial evolutions, dangling his legs and flirting his tail, singing all the while a sweet song. He imitates the mewling of a cat, the barking of a dog, and other sounds, and in the variety of his notes he is surpassed only by the Mocking-bird. The song is often heard on bright moonlight nights. This bird migrates in winter to Eastern Mexico and Northern Central America.

The cheerful little Phoebe is found nearly everywhere, and known also as the Pewee, Barn Pewee, and Pewit Flycatcher. There are few plantations or farmyards without a pair of Pewees. It is a familiar, confiding, and gentle bird (something like our English Robin), attached to localities and returning to them year after year.

Its nest is found in sheltered situations, such as under a bridge, a projecting rock, in the porch of a house, etc. I found one nest with young in the main street of a small town in the Southern Rockies, built by an open window in full view of the family, quite unmoved by the presence of the latter at mealtimes. In New Mexico I found another nest built in a house on one of the rafters ; a cat took possession of this nest and broke all the eggs, so I brought home the nest.

Motmots are peculiar to the new world, being found from Mexico throughout the whole of Central America and the South American continent. The general plumage is green, and the majority of the species have large racquets at the end of the central tail feathers.

The Mexican Motmot is locally known as the Houton. To observe

this beautiful bird in his native haunts one must be in the forest at dawn. The thick and gloomy forests are preferred by the Houton. In the far-extending wilds, about day-break, you hear him call in distinct tones "Houton, Houton!" his tail moving from side to side like a pendulum every time he calls. He makes no nest, but rears his young in a hole in the sand, generally on the side of a hill.

The Purple Martin, with glossy violet black plumage, known also as the Purple Swallow, American Martin, and Violet Swallow, is very plentiful in the southern and many other states, wintering in Mexico and the Bermudas. No bird is more deserving of protection and of encouragement to live about the habitations of man than the Purple Martin. One pair will destroy vast quantities of insects in the season. Little nesting-boxes are fixed on the tops of poles for the Martins. I saw many of these when travelling through the Middle States to South-West Texas. One may see calabashes hung up by Indians, also a hollow gourd attached to a pole near a negro hut; the nesting-box on our plantation was often the scene of disputes between the Martins and the English Sparrows.

Bullock's Oriole (*Icterus bullocki*), one of the most handsome of the Orioles, is found in Mexico all through the year. It is very plentiful in the rolling prairie country traversed here and there by small streams fringed with groves of cotton-wood trees. I found some very beautiful nests when camping on the banks of the Gila River, North Mexico. It is also found in Southern Arizona and Western Texas, and frequently builds in bunches of mistletoe growing on the mesquite-tree. The genus of American Orioles or Hangnests (*Icterus*) contains about forty species, the greater number being natives of Central and South America. The plumage of nearly all the species is more or less coloured with shades of yellow, orange, and black.

Audubon's Oriole (*Icterus auduboni*) is another beautiful bird found in Texas. It is more numerous in the valley of the Rio Grande and southward in Mexico to Oaxaca. It is more common in central and eastern Mexico than in any other part of its range. In the summer it frequents the denser forests of its Texas home, but during the winter months it will approach the inhabited regions.

It is said that these beautiful birds (with other Hangnests) are

frequently called upon to become the foster-parents of other birds, and in the forest near the plantation I found a beautiful nest containing seven eggs, two of these belonging to the Red-eyed Cowbird (*Molothrus*).

The Baltimore Oriole (*Icterus baltimore*) is locally known as the Golden Robin and Hangnest Bird.

There is a story to the effect that when, in 1628, Lord Baltimore was exploring in America, worn out and discouraged, he was so much cheered by the sight and sound of the Oriole that he adopted its colours as his own, hence the name "Baltimore Oriole". This bird is fond of building near the habitations of men. He weaves artistic habitations in lofty trees, choosing strong flexible material for the pendant bag-like nest, the strongest and best material being used for the part by which the whole is suspended. A native boy brought me a very beautiful nest, but I was sorry to find he had accidentally broken all the eggs in descending the tall tree in which he found it.

The Orioles are very fond of unripe maize. We had a "mealy patch" on the plantation, and I have often watched these beautiful birds feeding on the soft cobs.

The San Pedro Park (San Antonio), with natural springs and blue lagoons, an old camping ground of the Comanchees, contains a large number of wesach-trees, under which the Indians encamped in days of old; a most delightful spot for Humming Birds and many others.

The nest of the Hummers I have mentioned in an earlier chapter was blown out of the tree during a storm, both nest and young being destroyed.

I have many happy memories of the four months spent on my journey, bird life everywhere was wonderful; one could write much more of the many species found in Texas and the Gulf States, New Mexico, and Mexico.

ECLECTUS AND OTHER PARROTS AND PARRAKEETS

By the MARQUESS OF TAVISTOCK and M. DELACOUR

The group of the *Palæornithinæ* contains several species of Parrots and Parrakeets, which vary greatly both in size and shape. Some are large and have fairly short, square tails ; others on the contrary have very long and slender tails ; while there are yet others which are very small and short-tailed.

Nearly all are seed-eaters. They are generally very handsome birds, with the plumage differing according to sex. They live well and some breed freely in an aviary. They are found in Asia, Africa, and Oceania.

Eclectus Parrots

The Eclectus Parrots are remarkable for the extraordinary difference in colour of the sexes. The male is fine shining green, with red sides, the wings and tail having blue markings, and the upper mandible being red ; the female is red, with part of the back and wings, breast and belly blue ; the tail is tipped with yellow and the beak is black. On the whole the hen is far showier than the cock. Both sexes are very handsome, but with their large bodies and short tails they are not elegantly shaped, and they are inclined to be dull and morose in confinement.

But it must also be allowed that when thoroughly tame they are often very docile and affectionate and can be taught to say a few words. Their voice, which luckily is rarely heard, is the most powerful and unpleasant imaginable, and completely eclipses that of a Macaw or Cockatoo at its worst. The hen often lays in confinement and has sometimes reared her brood successfully.

The Eclectus Parrots, except when nesting, are gentle and harmless with other birds, but male and female, unless they know one another, do not agree if caged together. They will live on a seed mixture of two parts canary, one part oats, one of hemp, one of sunflower, with monkey nuts and plenty of ripe fruit. They should be allowed to bathe. When they are kept in a cage, they should be let out every day for exercise, but they do better in an indoor or outdoor aviary.

Eclectus Parrots are very susceptible to cold on first arrival and need warmth and care; when acclimatized and in an aviary, they only need heat in winter. They are very subject to contagious diseases, and their abode must be kept perfectly clean, and they should never be associated with any doubtfully healthy bird. They do not stay well, and cannot be trusted at liberty.

All the species and varieties require the same treatment. Six have been imported, often under the name of "Lories".

Eclectus pectoralis from Papua is the species already described; it is frequently imported.

Eclectus roratus from the Moluccas (Halmaheira) also arrives pretty frequently. It may be known from the above by the male being slightly more yellowish green; the female is red, with nape, mantle, chest and belly purplish violet.

E. cardinalis from Amboina, Ceram and Bourou is small and darker. *E. westermanni*, *E. riedeli*, and *E. cornelia*, all very similar, have likewise been imported.

Great-billed Parrakeets

The *Tanygnathus* Parrakeets are nearly related to the *Eclectus*; the differences of plumage between the two sexes are, however, less striking. Two species have been occasionally imported and two others very rarely.

MÜELLER'S PARRAKEET (*T. müelleri*) from the Celebes is a fine yellowish green; the wings are vividly marked with blue and yellow. The male has a red beak, the female's is white, she is also not so brilliantly coloured. They should be given two parts of canary seed to one of hemp and one of sunflower, with monkey nuts and plenty of fruit. It is exceptional for one of these Parrots to show intelligence or affection for its owner; as a rule they are dull, silent, stupid and uninteresting in captivity, though they are long-lived. Probably they are not happy, and have quite a different temperament when at liberty, as is shown in the case of an allied species, the Great-billed Parrot.

Müller's Parrakeet needs heat at first, but afterwards is satisfied with protection from wind and damp. They are peaceful in disposition.

THE GREAT-BILLED PARROT or Parrakeet (*T. megalorhynchus*) is also

uninteresting when caged, but when allowed its liberty its peculiar appearance and strange call, together with the bright colours of the male, render it attractive. It is a native of New Guinea and the vicinity; the male is a beautiful green with wings delicately and beautifully marked with blue and yellow; the beak is red. The female is decidedly smaller and duller, with blue only on the rump and the marking on her wings is less distinct. This Parrot should be released at the beginning of summer with one wing clipped; it is fairly hardy, but should be watched in frosty or snowy weather. This species is destructive to fruit when at liberty and it may be necessary to shut it up while the apples are ripening. Individuals have paired with Alexandrine Parrakeets. They should have the same food as Müeller's Parrot. When they are at liberty, both sexes, on fine hot days, indulge in an extraordinary sort of "song" accompanying it with absurd movements, most comical to watch. The courting of the female by the male is likewise very amusing; he leaps into the air with strange cries.

T. luzonensis from the Philippines has blue and yellow wings and the top of the head is blue.

T. everetti, also a native of the Philippines, has a green head and blue markings on the wings mingled with yellow.

Racquet-tailed Parrots

THE RACQUET-TAILED PARROTS (*Prioniturus*) are known by the two spathulate tips of their middle rectrices. These are "difficult" birds: that is to say, they die for no apparent reason, even with the most careful treatment. They should be given canary seed, hemp, millet, oats, sunflower seed, monkey nuts and fruit.

Both sexes have these curious spathulated feathers from which they derive their name but in other respects their plumage may be very different.

I have found this Parrot a gentle bird, but have never owned a pair in breeding condition; there was once a tame and gentle hen bird at the Zoological Gardens of London, and an adult pair was imported in the autumn of 1926.

The most freely imported species, though even this is very rare, is *P. platurus* from the Celebes. The male is bright green, with a red-

anded head, the mantle is silvery grey, and the tail washed with blue. The female has neither red nor grey, and her racquets are shorter.

Some years ago I had a pair of these birds. As they came over during winter I kept them in a well-warmed room. They moulted successfully but the hen died of aspergillosis some weeks later. The male bird was turned into an aviary when summer came, but in a few months he died of the same complaint. Had the aviary been movable they would probably have done better. They were pretty birds of agreeably soft and unusual colouring.

Long-tailed Parrakeets

THE LONG-TAILED PARRAKEETS (*Palæornis*) have given their name to their whole group. They are well-known birds with very long narrow tails and fairly well developed heads and beaks; almond green predominates in the plumage of most of them. They are chiefly Asiatic. Some are extremely beautiful, and nearly all do well in cage or aviary. They become very tame and often learn to speak a few words and to do tricks. Males are to be preferred to females, being more gentle and prettier. Parrakeets do not like to be handled, but unlike the *Platycerci* they become very much attached to their owner. Unfortunately many are noisy. Their food should consist of a seed mixture of two parts of canary, one of hemp, one of sunflower, with monkey nuts and plenty of all kinds of fruit; they do not care much for green stuff.

THE RING-NECKED PARRAKEET (*P. torquata*) which is found from Baluchistan to Cochin China, is of medium size, almond green, with a double black and pink collar and red beak. Hens and young birds are green all over and have no collar and no dark spot under the beak. They do not acquire full adult colouring until the third year, but they will breed while still in immature plumage.

The Ring-necked Parrakeet does well both in cage and aviary and goes readily to nest, but in close confinement the eggs are often near. Once acclimatized it is very hardy and may be wintered out of doors, but the young need more care than the adults in the way of shelter from wind and damp.

Outside the breeding season the male and female show no affection for each other: the females, indeed, are often so spiteful that it is unsafe to leave the males with them.

This species nests twice a year when at liberty, but this does not often happen in confinement. It often breeds very early, in February or March. It is not as quarrelsome as the Australian Parrakeets, but when she is nesting the female is sometimes dangerous to other birds. Young birds reared together generally agree pretty well when adult, but if they are not separated into pairs they may destroy each other's young. In an aviary they damage all exposed woodwork. The Ring-neck is decidedly capricious in its behaviour when at liberty, and its size is not sufficient to protect it altogether from attacks by Owls. Some specimens are good stayers; others stay for some time and then take their departure; others have no idea of staying and stray at once. A pair which mean to stay usually find a hole to breed in if there are old trees about. Their flight is pretty and graceful: even their cries, which are unbearable in a house, are rather agreeable than otherwise in the open. They are not destructive to trees, but are prone to eat too many apples. They should be let out when they are hungry, or the male bird may first be released by himself during the nesting season, when he feels affection for his mate and does not want to go away from her aviary.

Tame cocks will talk quite well and can be taught all kinds of tricks. Yellow, cream coloured, variegated and blue varieties appear occasionally, and are very handsome. The yellows are usually hens, and are just as hardy and prolific as normally coloured birds.

THE AFRICAN RING-NECKED PARRAKEET (*P. docilis*) only differs from the Indian Ring-neck in having a blackish beak, and has exactly similar habits. It is found from Senegal to Abyssinia.

THE ALEXANDRINE PARRAKEET (*P. nepalensis*), which inhabits North and Central India, resembles the preceding in both sexes and to all ages, but is just about twice as large and has a red bar on the shoulder. The Alexandrine Parrakeet is very hardy and is like the Ring-neck in its ways. It is more gentle, however, and is one of the most inoffensive Parrots, never hurting smaller birds, and rather letting itself be bullied by its companions. It is, however, apt to be a nuisance

in an aviary as it destroys the woodwork very quickly ; also the perches and even the wire netting if they be not sufficiently strong. When at liberty it behaves like the Indian Ring-neck, but is large enough to be safe from owls. It likes to gnaw branches, but does not do a lot of damage, as it prefers the larger and commoner trees. The Alexandrine does well in a cage, will learn to say a few words, and becomes very fond of its owner. Occasionally one comes across very beautiful yellow or blue individuals.

There are several sub-species of this bird which have been imported : *P. eupatria* from Ceylon, which is smaller ; *P. indo-burmanica* from Burma and Cambodia ; *P. magnirostris* from the Andaman Isles, which has a larger beak. They all have the same habits as the Alexandrine, and are very often mistaken for it.

Another species was formerly imported, but now is all but extinct, from the Mauritius, *P. eques*, like the Ring-neck, only larger and a darker green.

THE PLUM-HEADED PARRAKEET (*P. cyanocephala*) is one of the prettiest members of the family and would command a high price were it not so freely imported. It is a native of India and Ceylon. It is rather small and its body is a slightly yellowish green, with a purple head passing into violet blue at the back, and there is a black collar edged with greenish blue ; the very long tail and the wings are shaded with yellow and pale blue ; it has a red bar on the shoulders, the beak is yellow and black. Hens and young birds have lavender coloured heads and no red on the shoulders. There does not seem to be any reason why hens should be so scarce, but among fifty lots not even one hen may be present.

It is a hardy species and will nest readily, in a cage as well as in an aviary. It is not noisy, and in the nesting season the cock utters a kind of whistle, which at all events in the open air is quite musical. It does not often gnaw or spoil the shrubs in its aviary. It does not stay well when at liberty. Yellow individuals are sometimes found, with more or less rose-coloured heads.

It requires the same food and treatment as the Ring-necked Parrakeet.

THE BLOSSOM-HEADED PARRAKEET (*P. rosa*) takes the place of the

Blossomhead in Burma and Indo-China. It is slightly smaller and has a pretty lilac rose-coloured head. The hen also has red on the shoulders. Lutinos sometimes occur. Its habits are the same as the above-mentioned.

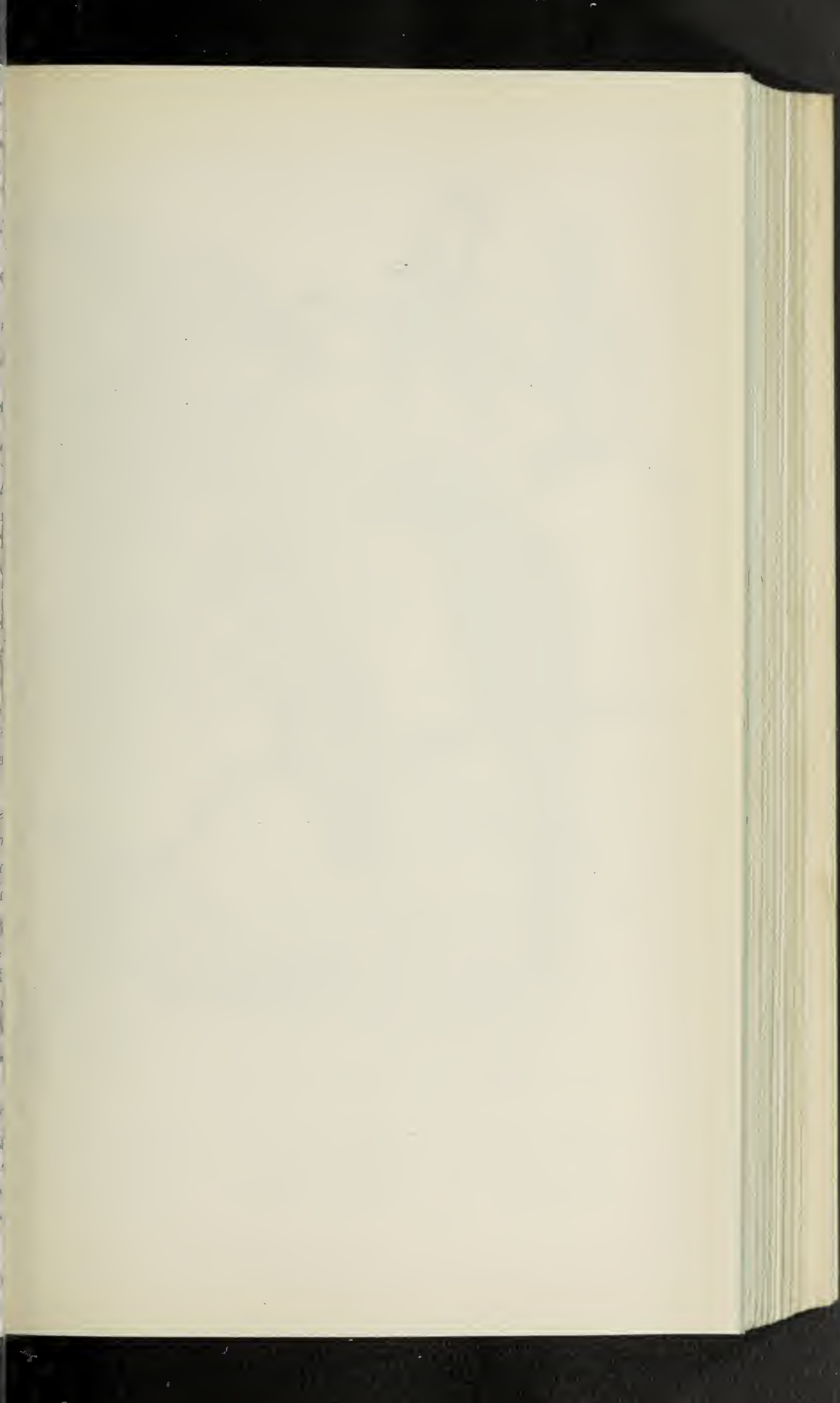
THE SLATY-HEADED PARRAKEET (*P. schisticeps*) from the Himalayas is larger, has a longer tail, and its head is a pretty deep violaceous grey, beak red. The sexes are alike. *P. finschi* from Burma and Indo-China is somewhat more yellowish. Both kinds are very pretty, but rare in captivity.

THE MALABAR PARRAKEET (*P. peristeroides*) from Southern India is one of the prettiest, only too rarely imported. Its head, back, and breast are a beautiful ashen grey with a black collar bordered with greeny-blue, and there is some green round the eye; the wings and tail are bluish green, the beak red. The hen has a black beak and no bluey green round her black collar.

This is a hardy species if provided with a shelter against wind and rain, but, like all the Ring-neck family, goes early to nest, and if the hen is allowed to lay in cold weather she generally dies of egg binding. To rear these Parrakeets one must either give them a heated shelter, or not provide them with a log before the middle of April. Malabars are noisy and do not thrive in a cage. They should have the same treatment as the Ring-neck.

LAYARD'S PARRAKEET (*P. calthropæ*) is a rare and pretty species from Ceylon, which may easily be recognized by its lavender-grey head, violet-grey mantle and rump and tail of the same tipped yellowish green. The under parts and the wings are green, beak red. The hen has a black beak. Its great drawback is its piercing and monotonous call, which is intolerable in a house. An old male which I have is tame, amiable and inoffensive to other birds. He is always at liberty and does not attempt to go away, but this doubtless is because he is so tame. This is a delicate species when it first comes over and requires heat and care, but once acclimatized can winter outside. It should be fed and treated like the Ring-neck, and is very fond of fruit.

THE DERBYAN PARRAKEET (*P. derbyana*) from China is a large bird; it is green, with a grey head, a wide black band round the neck and a violet breast, the male has a red beak, the female a black one.





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John Bale, Sons & Daniel

Blue-headed Parrot,
(*Pionus menstruus*).

Greater Vasa Parrot
(*Coracopsis vasa*).

Meyer's Parrot
(*Pæocephalus meyeri*).

Hawk-headed Parrot
(*Deropterus accipitrinus*).

Vinaceous Parrot
(*Amazona vinacea*)

Grey Parrot
(*Psittacus erythacus*).

This species would probably prove as hardy as the other members of its family.

THE MOUSTACHE PARRAKEET (*P. fasciata*) is freely imported into Europe. Of medium size, it has a large beak, and a rather short tail, and it is not elegantly shaped. It is green shading into yellow, with a grey head, a large black moustache and a rosy lilac breast. The male has a red beak; the female a black one. Young birds have green breasts. The species is found from the Himalayas to Tonkin. It is a hardy and prolific species, but noisy and aggressive. It does well at liberty but has little to recommend it as a cage bird. Young birds in their intermediate plumage are often sold as rarities. Food and treatment should be the same as for the Ring-neck.

THE JAVAN PARRAKEET (*P. alexandri*) only differs from the above in being smaller; the female has a red beak, which makes it hard to distinguish the sexes except by the more feminine look of the hen. I had a pair which nested several times but did not rear the young. This hen always finished the nesting season by starting to murder the male. This pair seemed to feel the cold and could not stand the winter out of doors.

THE GREY-HEADED PARRAKEET (*P. caniceps*) from the Nicobar islands only differs from the Moustache Parrakeet in its larger size and in the absence of pink on the breast.

THE MODEST PARRAKEET (*P. modesta*) from Sumatra is also rather large; it is green with a black moustache; the cheeks and nape are bright rose colour and the crown is reddish and the breast brown; the beak is red.

THE NICOBAR PARRAKEET (*P. nicobarica*) is like it but has a green breast and green crown to the head.

TYTLER'S PARRAKEET (*P. tytleri*) from the Andaman Islands, is a near relative, rather smaller, with a back less tinged with yellow. All these three species are rare and susceptible to cold as are also the following:—

THE MALACCAN PARRAKEET (*P. longicauda*) is a delightful bird, rather small, having a very long tail. Its colours are a beautiful light green, cheeks and nape bright rose; it has a large black moustache and the crown of the head is deep green. The large wing and tail

feathers are blue, as well as the middle of the back. The beak is red. The female is a little less brilliant and has a black beak. It eats the same food as the Ring-neck, but it feels cold more than any other Parrakeet. It requires a temperature of not less than 70°, and is likely to die should it fall below 60°, for which reason we cannot hope to keep and breed it in this climate unless in a specially constructed and heated room as for Humming Birds. It is a native of the Malay Peninsula and Sumatra.

The Blue-rumped Parrakeet

Here should be placed a very pretty little Malayan Parrakeet, *Psittinus incertus*, which is rarely imported. It has a short tail and large head. The head and neck are grey blue; back dark grey, rump bright blue, wings variegated with green, blue, yellow, and red, tail green; the under parts are olive tinged with grey blue, the beak red. The female has a green back and brown head. It is decidedly delicate and must be kept very warm. It should be fed like a Lovebird with the addition of plenty of fruit.

The Lovebirds

THE LOVEBIRDS (*Agapornis*) make up a small family of miniature Parrots, natives of Africa. In size they are about the same as or a trifle larger than a Sparrow. They have short, broad tails. They thrive and breed freely in aviaries, but do not live long in a cage. Some species are quarrelsome among themselves, and pairs should not be kept together. Some have a curious habit of lining their nests with strips of fine bark which they put on their backs between their wings; in this way they sometimes carry quite a load.

THE GREY-HEADED LOVEBIRD (*A. cana*) from Madagascar is the best known in Europe. The sexes are easily distinguished, the hen being green, lightly washed with olive all over and paler underneath, while the cock has a pale grey head and neck. Young cocks may be recognized from the first although they are greener than adults. This Lovebird goes readily to nest: the hen bird lines her nest with strips of bark or little twigs.

They should be fed on millet, canary, and hemp, and some green stuff. The males are fairly peaceful with other birds, but the females

are very spiteful and dangerous to weaker birds. Grey-headed Lovebirds may be bred at liberty during the summer, but they are not entirely hardy, and as a rule cannot winter in the open : if they are exposed to much cold they are apt to contract an incurable disease of the lungs.

THE PEACH- OR ROSY-FACED LOVEBIRD (*A. roseicollis*) from South-East Africa is a charming bird, rather larger than the above. Its colour is a pretty almond green, paler below, with the front of the crown, the cheeks and the throat a pretty rose colour which gradually merges into the green ; all the lower back and the rump are light blue ; the tail is green, mingled with blue and red ; the beak is ivory white, greenish at the tip. The sexes are similar, but the male has perhaps a slightly larger expanse of rose colour on his head. This is a very free-breeding species, but is spiteful towards its own kind as well as with other birds. It is quite useless to try and keep two pairs together. Feeding and general treatments should be the same as given to the preceding species ; like the Madagascar, this bird is not altogether hardy, and only certain individuals can pass the winter in the open air.

Although it does not always stay well, the Peach-faced Lovebird can be kept at liberty ; it is necessary to accustom it thoroughly to an artificial type of nest before releasing it, as in a natural state it is said to use the nests of the sociable Weaver Bird and it does not find nesting places readily in an English garden.

THE RED-FACED LOVEBIRD (*A. pullaria*) from West Africa is smaller than the preceding species, grass green with forehead, cheeks, and throat vermilion orange-red ; beak also red. The lower back blue and the tail marked with red. The male has much more red on his face and is brighter than the female. Although often delicate and susceptible to cold when first imported, this Lovebird is quite hardy when acclimatized and can stand bad weather. It does not breed freely, even under the best conditions ; it does well at liberty and can be left out through the winter provided Owls are not too numerous. It should have the same food as the preceding species, with the addition of a little apple.

THE ABYSSINIAN LOVEBIRD (*A. taranta*) is rather large ; it is brilliant green with part of the wings and tail black. The male has part

of the head carmine red, but the head of the female is green. Both sexes have red beaks and the young resemble the female. Until quite recently this was an exceedingly rare bird in Europe, but it had once been bred. Lately it has been imported in large quantities. It seems inclined to go to nest, but is very quarrelsome with its own kind. It should be treated like the Grey-headed Lovebird.

THE BLACK-CHEEKED LOVEBIRD (*A. nigrigenis*) from Rhodesia was only discovered some years ago. It has recently been imported in large numbers and proved an excellent aviary bird, very hardy and very prolific. Several pairs can be kept together and agree like Budgerigars. This little Lovebird has black cheeks and is rather dark green elsewhere, paler underneath; the points of the wings are black; the head and neck are brownish green, and the face is brown; the eye has a white circle round it, the beak is pink, deeper in colour towards the tip. Its breast is a pretty tawny orange. Male, female, and young are alike. It should be fed like the Grey-headed Lovebird; it uses the green bark of trees as well as hay and straw to line its nest, but it is wise not to let it nest during winter months.

The Black-cheeked Lovebird cannot be kept at liberty because it is a migrant and departs in August after it has stayed for some time and bred.

THE NYASA LOVEBIRD (*A. lilianæ*) is a very recent importation. It is rather like a small Peach-face with a green rump and a white circle round the eye. It seems remarkably hardy and prolific, and resembles the Black-cheeked Lovebird in disposition.

Two rare species of Lovebirds have recently been imported to America, and went through London. Both live on the highlands of the Tanganyika; one, *A. personata*, somehow resemble the Black-cheeked Lovebird, but has a dark brown head with a definite yellow collar; the other, *A. finschi*, is larger and resemble the Peach-faced Lovebird, but has an orange red head.

Hanging Parrakeets

THE HANGING PARRAKEETS (*Loriculus*) form a very distinct branch of the *Palæornitinæ*. They are tiny birds, with slender beaks. They feed on nectar like the Lories to which they are related, but their

tongues are not furnished with brushes. They have a curious custom of sleeping head downward hanging by their claws.

They are to be found in tropical Asia and Oceania, and are seldom imported and not much sought after by amateurs. It cannot be denied that they are difficult to keep, but they are not very difficult to feed and their voices are not unpleasant; they are inoffensive with other birds and their habits are interesting, and when in good condition their plumage is exquisite, making the prettiest Lovebird appear coarse. All who do not fear the trouble of keeping "difficult" birds should try to obtain Hanging Parrakeets.

The stock food is banana mixed with an equal quantity of crushed sponge cake, ripe fruit, canary seed, and a few mealworms. A shallow bath should be hung on the wires of their cage, and the Hanging Parrakeets rarely descend to the ground. They are delicate when first introduced and always remain subject to enteritis and pneumonia, yet when acclimatized they can stand a little frost without suffering. They should be taken in about the middle of October and pass the winter either in a sunny heated aviary or in a large cage, which must be kept scrupulously clean and protected from draughts and changes of temperature.

It is not easy to detect the first symptoms of illness in a Hanging Parrakeet, for they breathe heavily at all times, and when sleepy raise their head feathers and half close their eyes. One of the chief difficulties with them comes from their trouble with wire netting: they climb it easily, but when they want to fly they are hung up as if their claws were too long; the result is that they lose their equilibrium, dash against something and hurt themselves. I lost many in this way, and was eventually obliged to keep their aviary lined with string netting and to cover all the wooden parts with soft stuff. Every effort should be made to prevent their claws from getting overgrown.

THE VERNAL HANGING PARRAKEET (*L. vernalis*) from India and Indo-China is green with a red rump, the throat and under the tail pale blue. The sexes are alike. Some of our specimens are more slender and have darker eyes than the others. One of the larger, lighter-eyed individuals took an interest in a log. The autopsy showed that it was a female. *L. pusillus* from Java has a yellow spot on the throat, and

L. flosculus from Timor has the nape tinted orange and an elongated red spot on the throat. Except for these differences they resemble *L. vernalis*. *L. chrysonotus* from Cebu (in the Philippines) is green with red forehead and rump, the crown, nape of the neck, and the upper part of the back yellow, and a red spot on the breast. *L. philippinensis* from Luzon has a red spot on the head, another on the nape, and a larger one on the throat is orange; the rump is red. All these species have only been very occasionally imported.

THE CEYLON HANGING PARRAKEET (*L. indicus*) is pale green with a red rump, and in the male a red spot on the head. It is fairly often imported.

THE BLUE-CROWNED HANGING PARRAKEET (*L. galgulus*) is one of the prettiest and most freely imported. It has a black beak, differing from all the species hitherto described, which have yellowish red beaks. The young, with dull and often soiled plumage, are not very attractive on arrival, but an adult male clad in bright green with an intensely blue spot on the crown of his head and throat and rump of dazzling red, reminds one of a tropical flower when he hangs up by his feet and the sun shines on him. The female has no red throat and scarcely any blue on her head.

Those which I have are pretty quarrelsome among themselves and with their relations; but are harmless to little birds and seem rather afraid even of Waxbills. The courtship of the male is pretty and strange: he runs rapidly along the perch uttering a kind of buzzing noise and suddenly raises the red feathers on his throat and rump.

SCLATER'S HANGING PARRAKEET (*L. sclateri*) of the Isle of Tula is like the above: it is green, with all the back red and yellow and a red stripe on the throat. I had one male some years ago which only lived a few weeks. I never saw a handsomer little Parrot.

BREEDING THE RED-CRESTED FINCH IN FRANCE

By A. DECOUX

At last I have been successful in breeding the Red-crested Finch (*Coryphospingus cristatus*). My pair have been in my possession for

four years, and had made several attempts during the last three years, but had been unable to rear their young ones. During 1926, however, seven young have been reared from three nests. The nests were built by the hen alone; they were made of blades of grass pulled out of the lawn of the aviary, and lined with horsehair and coco-nut fibres. The first clutch consisted of three eggs; the following ones of two each, the eggs being pure white. The hen sits for eleven days, the cock taking no part in incubation. When hatched the young are dark red with a pale greyish down. They are chiefly fed by their mother with small insects, seeds, and green food. They leave the nest when nine days old, when they resemble their mother, though of a darker hue; their heads are almost bare of feathers, and they have very short tails. But they can fly well and like hiding among the branches. They feed themselves when about twenty-five or thirty days old, at which time the feathers of the head have completely grown, but they still lack the crest, which does not appear until the first moult, which takes place about nine weeks after they have left the nest.

The Red-crested Finches are good aviary birds, very handsome and sufficiently hardy to be wintered out in an unheated aviary. Their call note is low and plaintive, and repeated frequently. The song of the cock is uninteresting, and very similar to that of *Coryphospingus pileatus*; it is composed of some sharp notes and ends in a trill.

I think that this species has not been previously bred in captivity.

COLOUR BREEDING IN BUDGERIGARS

The Budgerigar in its various colours of green, blue, cobalt blue, mauve, violet and white provides an ideal subject for scientific breeding on Mendelian lines. Plenty of people are breeding Budgerigars, but is anyone doing it scientifically in this country?

The Budgerigar Club is certainly working in the right direction, and we are indebted to the secretary for a copy of an admirable booklet, written by Professor Hans Duncker and Mr. J. Bradshaw.

That this subject has been taken seriously in Germany is shown in the first part of this booklet where Professor Duncker sets out his

methods and conclusions in studying colour-strains in Budgerigars. The subject is dealt with most minutely after a large amount of very careful experimental work, and all who are contemplating the breeding of Budgerigars in their various colours and perhaps producing new colours should carefully study this little book, which can be obtained from the Hon. Secretary of the Budgerigar Club, Mr. Fred C. Longlands, 66 East Street, Chichester, Sussex, price 2s. 6d.

CORRESPONDENCE

WAXBILLS FROM EAST AFRICA.

SIR,—I was interested to read the letter in the last issue of the Magazine in regard to a new species of Waxbill from East Africa. I brought some Waxbills myself from the Island of Mozambique this summer and also received some more this autumn from my friend, Mr. Schulz, of Tanganyika Territory. These Waxbills resembled the Common Waxbill but were considerably smaller, of a darker colour, more distinctly marked and had the areas which are pink in the ordinary Waxbill replaced by vivid red; the difference between the two species was very apparent when they were compared side by side.

Unfortunately they proved to be very delicate and all died within a few months; this was no doubt due to the great differences of temperature between here and East Africa. During the time I was at Mozambique the thermometer was seldom below 110° F.

SYDNEY PORTER.

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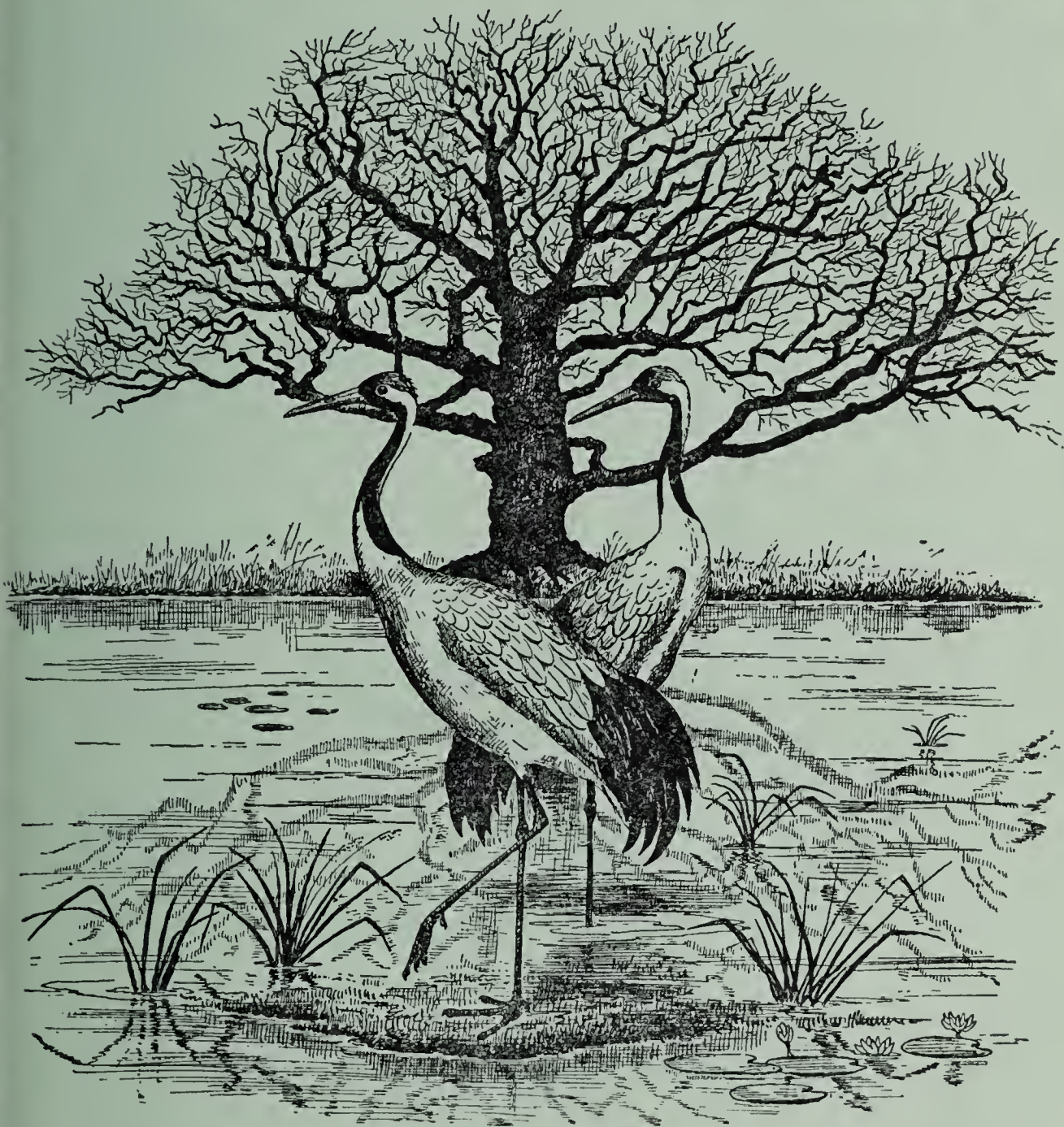
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THE Avicultural Magazine



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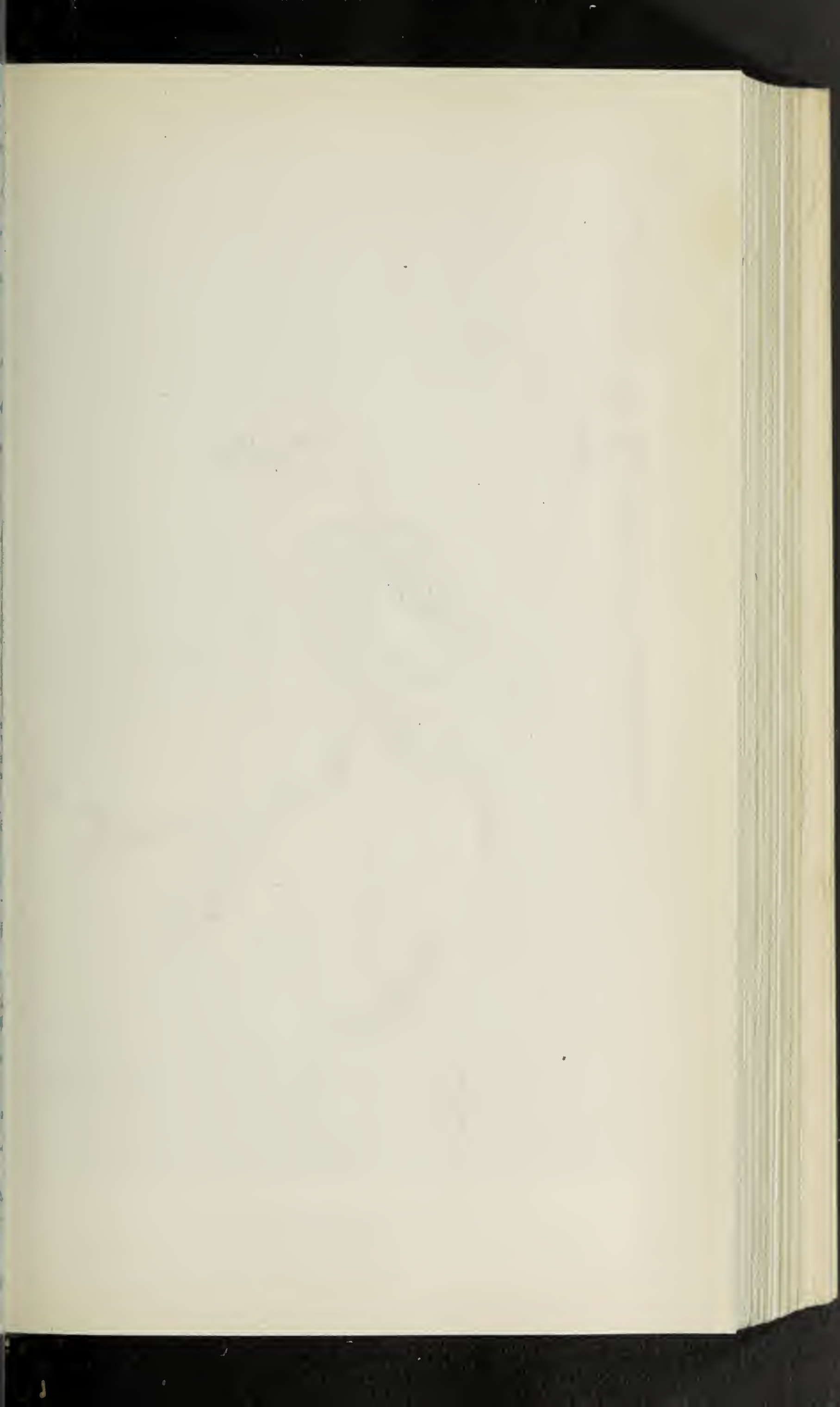
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FOREIGN & BRITISH BIRDS
IN FREEDOM & CAPTIVITY

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FEBRUARY, 1927.

THE BLUE-BREASTED ROLLER (*CORACIAS CYANOASTER*)

The very fine Roller depicted in the accompanying plate was brought home from the Gambia by Dr. Hopkinson in July, 1925, and lived in the Zoological Gardens until December, 1926. It appears to have been the first living example of this species to reach this country. The Blue-breasted Roller is readily distinguished from the other species of the genus by its buff-coloured head and upper breast, blackish back and rich ultramarine-blue under parts. It is a resident species in Senegambia, but very little appears to have been recorded of its habits, though probably these do not differ from those of the other species of the genus.

Rollers, in spite of their great beauty, are not very often kept in captivity, neither are they particularly easy birds to keep. They are very quarrelsome and, as a rule, each individual must have a cage or aviary to itself, that is to say so far as others of its own kind are concerned. They will not, generally speaking, disagree with birds that are unrelated to them. The food of Rollers in nature consists of insects, especially beetles, small frogs, and probably newly-hatched birds, the method of feeding being to sit motionless on some bare branch of a tree and to scan the surrounding ground for any creature moving on the ground within the range of vision. Slow flying insects are also

taken on the wing. In captivity they should be fed upon a good insectivorous mixture in which there is a fair amount of fresh raw meat, also mealworms and cockroaches.

They thrive better in an aviary, where they can indulge in flight and, incidentally, exhibit the striking colours of their wing feathers than in a cage, and a Roller with full powers of flight, in an outdoor aviary, forms a very beautiful exhibit during the summer months.

D. S-S.

AN IMPORTATION FROM PORTUGUESE EAST AFRICA

By CAPTAIN H. S. STOKES

A small but choice collection of birds has recently arrived at Messrs Gamage's under the care of Mr. Webb, who has put in some months of arduous work trapping under difficult conditions, and a good deal more work getting his birds home to England in the beautiful condition we have come to associate with this collector.

Species new to aviculture in this country include the Purple Crested Touracou (*Gallirex porphyriocephalus*),¹ three specimens, of usual Touracou colouring, with an iridescent crest of green and purple. These have gone to Mr. Ezra and Mr. Spedan Lewis.

The Natal Robin Chat (*Cossypha natalensis*) is very beautiful in shape, and coloured grey and orange. There are several Black Rail (*Limnocorax niger*) of small size, and blue-black colour and (alas) only a hen of the Rufous Crake (*Corethrura rufa*), a tiny species no larger than a Painted Quail, chestnut and black, spotted with white. The Blue Necked Rail (*Rallus cærulescens*) is also represented by one specimen.

Two species of Sunbirds are also thought to be imported for the first time, though the naming of Sunbirds seems to be in some confusion. They are a tiny one called the Plum Coloured (*Anthrothreptes longuemarensis nyassæ*) and the Zambesi Collared (*Anthrothreptes collaris hypodilus*), both in beautiful condition, and happily sipping their nectar out of tooth-powder tins.

¹ [This is not quite new to aviculture, Mr. Whitley has a pair.—ED.]

Also new is the Water Dikkop, one pair (*Burhinus vermiculatus*), a small Stone Curlew.

Not for many years have we seen a consignment of Peters' Spotted Firefinch (*Hypargus niveiguttatus*),¹ a very beautiful species as large as a Grass Finch, red boldly spotted with white, and Jameson's Firefinch (*Lagonosticta jamesoni*), of which there were several pairs, as also the very rare Red-faced Waxbill (*Pytelia afra*). These Finches all appear to be solitary, and never found in flocks, so the trouble of catching them must have been immense.

Kurrichaine Button Quails (*Turvix lepurana*) were in some numbers. Desert birds of the Hemipode family, the hen considerably bigger than the cock, and of polyandrous habits. They will require dry sandy conditions. Our editor bred both an Australian and an Indian species some years ago in an indoor aviary.

NOTES ON BIRDS OF MOUNT SELINDA

By SYDNEY PORTER

(Concluded from Vol. IV, p. 305)

The Brown-hooded Kingfisher (*Halcyon albiventris*) belongs to the genus *Halcyon*, the species of which do not keep exclusively to the water like the other Kingfishers.

These birds will sit for hours on the branch of a dead tree or in some other conspicuous spot where the vegetation is rank and luxuriant, and which is conducive to an abundance of insects, on the look-out for their prey, which consists of large insects, lizards, etc.; the birds sit perfectly motionless except for the occasional turning of the head.

These Kingfishers frequently chase each other through the bush with loud resounding cries.

They would make ideal cage birds, being intelligent, very beautiful, and easy to cater for.

¹ [A coloured plate of this species appeared in the Magazine for 1905 (Vol. III, New Series, p. 119), the figure of the male being drawn from the first example imported. Since then one or two specimens have reached Europe, but never until now has any number arrived.—ED.]

Speckled Mouse Birds (*Colius striatus*) always remind me of Parrakeets, both in flight and general demeanour. They live in the dense bush in small parties of about a dozen or more, and I have often noticed that a little party of three or four would fly single file into a bush, and a few minutes or so afterwards a few more would come, until quite a number were gathered together. They usually sit very close to each other, either lying on a branch or hanging underneath it, and when in the latter position they half open their wings, puff out their feathers, and sun themselves.

The Mouse Birds seem to be possessed of very little intelligence, for great numbers visit orchards and get shot, yet there is always a continuous stream of newcomers, just as though nothing had happened. They eat hard green fruit, especially peaches, which would kill any other bird; they eat these when hardly the size of a walnut, and in fact seem very partial to them, for when they can get these they leave other ripe fruit untouched. In this way they are a great pest to the fruit growers and no amount of scaring will keep them away. Hundreds can be shot in a single day, and yet their numbers never seem to diminish; this is strange, for they cannot be called common in any district.

The flight though swift is rather laboured and heavy.

The Trumpeter Hornbills (*Bycanistes buccinator*), which are but little inferior in size to the Crested Hornbills, frequent the wooded slopes of the mountain and the dense bush lands at the foot. I have seldom seen them in the forest itself like that bird, except for a short time in the year when certain berries are ripe on the forest trees, then they are seen in small parties.

Outside the confines of the forest the Hornbills consort in pairs or small parties composed of three or four birds, and they are seen on the tops of the large fruit or berry bearing trees.

They are tolerably tame, and let one approach within a good distance for observation. They sometimes sit for hours scarcely moving, with a very dreamy expression in their eyes, no doubt due to the long black eye-lashes.

The cry, which is fairly loud, has nothing like the volume of that made by the Crested Hornbill.

The Crested Hornbills (*Bycanistes cristatus*), which are amongst the largest of the Hornbills, are very rare in South Africa, Mount Selinda being one of the few places in which they are found, and there they are seen in pairs or small flocks in the environs of the forest. In the forest itself the birds live in the tops of the tallest trees, feeding upon their fruit.

The first time I was in the forest I was startled by a noise similar to that made by an engine when letting off steam, this was made by a large flock of these birds, which I had disturbed in a tree over my head. I doubt if there is another bird in the world which makes such a noise when in flight; the noise made by a flock of these birds flying over head is incredible. The call, too, is extremely loud, and it would lead one to think, if he did not know, that it was made by some large mammal rather than a bird; it is a very loud braying bark, and is one of the well-known sounds of Mount Selinda.

The first birds that I saw on the mountain were a pair of these Hornbills, which flew out of the forest into the blue gum-trees near the homestead as soon as we arrived. I don't know whether this was due to inquisitiveness, for I never saw the birds again there, they are usually very shy on account of their huge size.

During the time that I was at Mount Selinda the majority of the Hornbills there frequented one large tree in the forest, and at any time of the day one was almost sure to see a flock of them there, either feeding upon the fruit or resting. Owing to the great height of the tree, over 200 feet, it was necessary for me in order to observe them to lie on my back, a by no means pleasant business especially when an army of the fierce black forest ants passed in the vicinity. After feeding the birds pair themselves off, and sit affectionately side by side.

One would think that the preening of the feathers would be a difficult task for the birds, owing to the enormous size of the beak, but this is not so, in fact they seem to be able to preen even the neck feathers with the greatest of ease.

It is a wonderful sight to see a flock of about twenty or more of these huge birds feeding in the forest trees. It is very amusing to watch them courting, the hen squats down on a branch, the cock

meanwhile hopping about among the branches in a state of great excitement, and every now and then bringing his intended mate a small berry in the tip of his great beak; at other times he squats by her side and preens her feathers and keeps eyeing her with many loving glances.

During this performance both birds look singularly grotesque. I have questioned the natives through an interpreter—which is always a very unsatisfactory business—in regard to the nesting habits of these birds; they state that the nest is made in a large hole at the top of one of the great forest trees, the female entering and the male then plastering the entrance up with dung; she is fed by him during the lengthy period of incubation and the rearing of the young.

The natives say that the hen moults during the time she is imprisoned in her nest.

The colour of these birds is glossy greenish black, the feathers of the back having a scaled appearance, the feathers of the head are elongated, and form a full loose crest, the feathers at the front are lavender grey, with the basal half black.

The ear coverts are grey, the feathers of the neck and throat tipped with that colour; the lower back, the tail coverts, the lower abdomen, the back of the thighs, white; the two central tail feathers are black, the rest broadly tipped with white.

The enormous casque is light horn colour, the beak dark horn. The naked skin round the eye pink, the eyes themselves are very large, and there are long sweeping black eye-lashes, which give the bird a very gentle expression.

The casque of the female is much smaller and darker than that of her mate.

The beak and casque of this Hornbill is of a very fine texture, almost like tissue paper, and when the bird is flying between one and the sun the light shines through and it appears to be a rose pink colour; this is due to the presence of fine blood vessels in the structure.

These Hornbills in common with the rest of the family are very poorly feathered, the under wing and under tail coverts being hardly visible, and are little more than down, this I suppose accounts for the noisy flight. The whole body too is very poorly feathered, the feathers being thin and of a poor quality.

Though the flight seems to be very heavy and laboured when the birds fly short distances, yet when they pass from hill to hill or from one mountain to another, the flight seems remarkably light and buoyant, and they sail long distances with outstretched motionless wing.

The Ground Hornbill (*Bucorax caffer*) has been previously mentioned, so I will say little else in regard to it.

The natives in Gazaland believe that the bird can detect any animal that may be in a hole in the ground by its sense of smell, they say that the bird then proceeds to blow down the hole, the foul breath of the bird causing the unfortunate inhabitant to come to the entrance for fresh air, when it is at once seized and devoured.

A pair of these birds were kept by a man at a native trading store, some twenty miles from Mount Selinda, and when they were full grown they developed the most voracious appetite. There were large numbers of cats at this store kept to check the increase of rats, and, like all members of the domesticated feline tribe, they were extremely prolific, but the small community never increased in spite of numerous additions from time to time; the reason for this was discovered one day by the proprietor, who saw one of the Hornbills seize upon a whole family of cats, and one by one throw them into the air (as they do with all their food) and gulp them down alive.

These birds live in small parties of uneven number, either five, seven, or nine, seldom more or less.

I spoke to many people about this curious fact, including people who had lived in Rhodesia many years, and had seen hundreds of them, but they all said that they had never seen a party composed of an even number. Perhaps the odd one acts as a chaperon!

The Narina Trogon (*Hapaloderma narina*). The Trogons are very beautiful and delicately coloured birds with very loose fine plumage, tiny feet and small curved wings, which are usually hidden beneath the long silky feathers of the back. They only inhabit the recesses of the forests, and are never seen in the open country. They are found in nearly all the tropical countries of the world, and live entirely upon insects.

One species only is found in Southern Africa, namely the Narina Trogon.

The first time I saw this beautiful creature at Mount Selinda was when I was on the road through the forest to the Mission Station. I had been watching Green Bulbuls when I heard the coo of a Dove as I thought which I had never heard before ; I went in the direction of the sound, and was greatly surprised to find that the sound was made by a Trogon. The note was almost identical with that made by the English Wood Pigeon, and while uttering it the Trogon sat upright on a branch, the feathers being compressed against the body, making the bird look extremely slim. I watched the bird for a short time until it flew away, when I endeavoured to follow, but the undergrowth proved too thick ; it continued to call for a considerable time, the sound getting fainter and fainter as it retreated to the heart of the forest.

Afterwards I saw these birds from time to time, always being attracted in the first place by their dove-like notes. They live singly, and inhabit the tallest trees in the gloomiest part of the forest, where they pass from tree to tree with a silent and ghost-like flight.

These Trogons, at least the males, have patches of loose bare skin of a brilliant bluish green colour above and behind the eye, at the base of the beak, and on the throat ; these are capable of erection, for I have noticed that when the bird is uttering its cooing notes these patches stand out very vividly against the rest of the plumage, and I believe they are used in the display.

In colour the males are a wonderful golden metallic green above, also on the upper breast and throat, the rest of the under parts being a lovely shade of rose pink. The primary feathers are remarkably narrow and sickle shaped. The wings are a mixture of black, white, grey, and green, the wing-coverts being very finely vermiculated. The four central tail feathers are dark glossy green, the rest are white with black bases. The bill is pale green, and the bird has a very wide gape, like that of a Nightjar. The female is somewhat similar to the male in plumage, but is of a browner colour, and the rose pink under parts are not so brightly coloured.

The Golden-tailed Woodpecker (*Campothera abingdoni*) was only met with once or twice on some of the thinly wooded slopes of the mountain, where it at once attracted my attention by its loud full cry. It is a very active bird, and runs with great speed up and down

the tree trunks, stopping every now and then to hammer at the bark or to extract some grub, but it feeds principally upon a small species of tree ant, licking them up with its long tongue as it runs along; in a specimen that was secured I found the plumage full of these ants.

The Cardinal Woodpecker (*Dendropicus cardinalis*) was exceedingly common on the mountain, always busily engaged in running about the tree trunks in search of small insects which inhabit the bark. Sometimes these birds had singing parties in the trees, a dozen or so would gather together and indulge in the most hilarious behaviour, in fighting, chasing each other from tree to tree, and making a great noise. They have no real song, but have a series of rich pleasant calls. The Cardinal Woodpecker is the smallest of the South African Woodpeckers.

The Scaly-throated Honey Guide (*Indicator variegatus*) is rare, and I only saw it once deep in the forest, where it was hopping about the branches of a tall tree, uttering the strange notes which are characteristic of the family. I know nothing of its habits beyond that it is a very quiet and unobtrusive bird, and is very rarely seen.

Levaillant's Barbet (*Trachyphonus cafer*) are found but sparingly in the districts lying at the foot of Mount Selinda, where they at once attract attention by their loud cries; they are very seldom seen, and keep to the thick bush as though conscious of their loud colouring. They never associate in parties like the Black-collared Barbet.

The Emerald Cuckoo (*Chrysococcyx smaragdineus*). When a child I once saw a stuffed skin of this bird in a taxidermist's window, and I was so struck by its extraordinary beauty that from that day I cherished a great desire to see the bird in its native haunts. Later on, I again made its acquaintance; unfortunately—as part of millinery impedimenta—once in Paris I saw no less than seven skins of this wonderful bird forming in conjunction with a chaotic mass of material what is usually called a hat, but it was not until coming to the Mountain of Selinda that I made the acquaintance of this exquisite bird in its forest home.

One usually thinks of the Cuckoos as sombre-coloured birds, in fact, most of them are, but the genus *Chrysococcyx* proves the exception, in fact, they can boast of few rivals in the avian world, especially the Emerald Cuckoo, whose colour is the most remarkable glittering

emerald green, the feathers having the appearance of scales; the lower parts are delicate canary yellow, the tail feathers are tipped with white, the under tail coverts white barred with emerald green. The female is marked with brown and is white on the under parts barred with green.

These Cuckoos are essentially forest birds, inhabiting the tops of the highest trees, where they find most of their food, which consists mainly of hairy caterpillars, and I have frequently seen them consume quite large ones.

The presence of the bird (the male) can easily be detected by its loud, clear, and very distinct whistle, which consists of three notes, "chu—chu—chit," which is uttered very slowly and repeated at frequent intervals.

When about to call the bird chooses some thick straight branch in the shade, then straightens himself out horizontally, and as he calls he turns slowly round and round, moving his tail up and down, and appearing to put his utmost strength into the production of the song. The bird continues the call sometimes in the same position for over an hour at a time, then it will fly to another tree close by, and on alighting give utterance to a particularly loud alarm note, which is very different to its usual song, and when it has found a suitable branch it commences to call again.

Unless in the sunlight, the bird is very difficult to see in spite of its brilliant plumage, which seems to tone down in the shadows and harmonize with the surrounding foliage.

The female is an extraordinary illusive creature, and very difficult to observe, for she cannot be detected by any note, for she is comparatively silent and very few white people seem to have seen one.

Rain and mist do not seem to damp this bird's ardour, for I have frequently heard its loud ringing notes when the whole forest has been enveloped in dense rain clouds, so thick that the tops of the trees were invisible.

These Cuckoos are parasitic, laying their eggs in the nests of other birds.

The Klaas Cuckoo (*Chrysococcyx klaasi*) is another of the exquisite Golden Cuckoos that I have occasionally seen on the lower wooded slopes of the mountain. Like the Emerald Cuckoo it has a

remarkable loud clear call, and also like the latter bird it is hard to see owing to its plumage harmonizing so well with the foliage.

It is never seen in the forest, but seems to prefer the more open country.

Owing to its comparative tameness, I have had very good opportunities of observing it. It betrays its presence by its flute-like whistle of three notes. The hen too has a distinctive note, but it is quite different to that of her mate.

The birds seem to go about in pairs, the cock being an exemplary husband. The hen seems to be very lethargic, at least she assumes that pose whilst her husband makes a very energetic search of the thorn-trees for the hairy caterpillars upon which these birds feed. As soon as he has found one he brings it back to his mate, approaching her with great ceremony, drooping his wings and raising and fanning his tail, and, holding his head up as if to say, "Look what a fine one this is," he gives it to his mate, but I regret to say that she like many humans shows little or no appreciation of what her husband does, but simply snatches the food as soon as he is within reach and without more ado swallows it. If the hen has moved to another tree before the cock returns, he shows great concern when he finds that she has gone, and hopping about all over the tree, he utters his call note, "Where is it, where is it?" until she answers in a low whistle, "Here, here, here."

I once saw a male feed his mate during the whole of a morning, and even then she was not satisfied.

The feathers on the thighs of the male are very long, and make him appear as though he wore a pair of long white trousers.

In colour the male is shining emerald green, glossed with golden copper, and marked with white above, the lower parts being white too.

The female is barred with creamy buff and brown, and looks very much like a small edition of an immature European Cuckoo, except that she has metallic green on some parts of her plumage.

Burchell's Coucal (*Centropus burchelli*) is very common, and is found in the dense bush and reed beds which border the fast-running mountain streams.

Its peculiar loud bubbling note, like the noise made by water running out of a narrow-necked bottle, is often heard in the early mornings

and evenings ; it is one of those strange exotic noises that are so pleasing to the ear of the bird-lover in the tropics.

Burchell's Coucal differs in its habits from the Senegal Coucal, which is the common Coucal in Rhodesia, in being practically terrestrial, this being shown by the highly developed hind toe which resembles that of a lark. When disturbed the bird rises up out of the undergrowth, and flies a short distance, then dives again into the dense vegetation, where it creeps about in search of the insects upon which it subsists. Occasionally I saw the birds on the edge of the forest, low down in the dense jungle.

In colour, these birds are glossy greenish black on the head, nape, and upper back, the mantle and scapulars chestnut with white shaft streaks, the lower back is finely barred grey and white, the tail-coverts greenish black, barred with white, the tail-feathers greenish black, tipped with white, the entire under surface creamy white.

Livingstone's Touracou (*Turacus livingstonii*). Touracous are large, splendid birds, quick and graceful in their movements, and wonderful in their colouring, which is usually a harmonious combination of green, purple, blue, and carmine. Their attractive qualities make them very suitable birds for aviaries.

The Livingstone's Touracou is a forest-loving bird, and only frequents the densely wooded districts, and is seldom found outside the confines of the dark forests, where it lives in the sunshine on the tops of the great forest trees and never descends to the ground. It betrays its presence by its extremely loud raucous cry, which resembles the caw of a rook, but is very much louder and quicker, and when a party of these birds form chorus the noise is perfectly deafening.

These Touracous seem to indulge in dancing and "singing" parties in the high tree-tops. I have often watched parties of six or more birds playing together, sometimes they all run together, one behind the other, along a horizontal branch until they come to the end, when they fly in single file across to another tree, where they fly from branch to branch displaying their splendid carmine wings. If one sits quietly they continue to play about, but sometimes in the middle of the play they remember that they are being watched, and suddenly crouch down in a clump of leaves and become almost invisible.

At times the forest seems to swarm with these birds, judging by the noise they make. They give full vent to their vocal powers about sundown.

They live almost entirely on fruit and berries, but are especially fond of a small orange green berry which grows upon a large forest tree; this berry is relished by most fruit-eating birds, it has the most horrible taste, and I can hardly see how birds can have any sense of taste if they eat it; it is called the Guniti-berry.

If one happens to be near one of these Touracous when flying, a remarkably loud rustle is heard even if the bird makes no motion with its wings; I noticed this especially when a bird of this species shot past me with closed wings down the mountain side.

In colour both sexes are rich grass green, dark metallic green on the wings, lower back and tail, there is a white mark above and below the eye. The head has a long upstanding crest of decomposed feathers, green tipped with white. The flight feathers are intense carmine red, edged with dark metallic purple. The feet are black, and the bill crimson.

It has often been stated that the carmine pigment in the flight feathers of the Touracous is soluble in water, but I am afraid that I cannot believe it, for I have tried many times with the feathers of several species, using both cold and hot water, and also different kinds of soap and soda, but I never washed any of the colour out.

The Purple-crested Touracou (*Gallirex porphyreolophus*) cannot be called common in the Mount Selinda district; it is found rather sparingly in the thickly wooded districts on the lower slopes of the mountain, and I was fortunate in seeing quite a few during the time I resided at Selinda.

These Touracous are of a tame and confiding nature, and will come within close proximity of the homesteads, where they visit the fruit-trees and feed upon the fruit, being especially partial to plantains and bananas. When at rest in the trees, they look very inconspicuous, their brilliant colouring seeming to tone down and harmonize with the surrounding foliage; they then look like large grey Pigeons, the crest being depressed and the bird sitting close up to the trunk of the tree, but in spite of their apparently lethargic attitude, their brilliant eye is always fixed upon one.

They live principally upon a certain kind of wild fig, which grows in great clusters upon the trunks of the tree, and in the vicinity of one of these trees one is almost sure to find a pair of these birds.

The cry is rather pleasing, and is totally different to that made by the Livingstone's Touracou. It wanders about the country in pairs, and is not migratory like the latter bird.

If the weather is very wet, these birds seem to be incapable of sustained flight, for the natives sometimes capture them by chasing them from tree to tree until they fall exhausted to the ground.

A young bird of this species was captured in this manner by the natives, and kept for me by some friends. "Charlie" was his name, and a most charming pet he made, he was fed upon fruit and cake, and in time became exceedingly tame, but unfortunately one night a wild cat attacked him, and tore half the lower mandible off, we fed him on soft food for a time, but he lingered a few days and died.

In colour these birds are dark rich metallic green on the lores, eyebrows, and on the frontal band, the long loose crest is brilliant purple, under the lower mandible is a patch of metallic blue. The throat and breast are green with a pinkish bloom, the rest of the under parts are slate grey, the back of the head, the whole of the upper parts, and the tail either brilliant metallic purple or grey according to the angle at which one looks at the bird, the flight feathers are brilliant carmine, edged with brownish purple. The tail-coverts are dark purple. The legs, feet, and beak are black, the eyelids are edged with bright pink. Both sexes are the same in colour.

Levaillant's Parrot (*Pæocephalus robustus*) is a large and handsome Parrot, and only found at certain times of the year, especially when the "Mahobahoba" fruit is ripe; this is a small round fruit, about the size of a walnut, with an exceedingly sickly sweet flavour. The birds associate either in pairs, or in small parties, and can be easily distinguished from all the other African Parrots when on the wing by the brilliant green of the under parts and the red edging of the wings. When flying they are extremely noisy, uttering all the time their loud raucous shrieks.

Every morning from 7.30 to 8 a.m. they could be heard passing over the homestead on their way from the lowlands where they roost

to the forest to feed upon certain fruits. Their shrieks can be heard half a mile away.

Of an extremely wild and wary nature they will not tolerate the presence of a human being, and consequently it is well nigh impossible to observe them in the wild state. During their flight to and from the forest, they frequently rest on the way in certain high trees.

It is a very easy matter to capture any number of these birds by finding out the tree where they spend the night and then putting bird lime on the branches on which they roost, and in this way the settlers frequently capture large numbers; but very few ever seem to reach these shores.

The Crested Hawk Eagle (*Lophoætus occipitalis*). This very beautiful and unique Eagle is seen but occasionally in the lowlands around Mount Selinda, generally in pairs. It is a very conspicuous bird when in flight owing to the black and white marking of the wings and tail, and when in the distance I have frequently mistaken it for one of the large Hornbills. It frequents the well-timbered and well-watered districts, where it is to be seen sitting motionless on the top of some large bush or tree raising and lowering its long crest. When at rest it appears to be quite black, but upon close examination is seen to be of a general dark sepia brown, the wings and tail being broadly banded with white, the cere, the gape, and the feet bright yellow, the legs are feathered down to the toes, and the unusually large eyes are yellow.

The Bateleur Eagle (*Helotarsus ecaudatus*) can be distinguished at once from all other Eagles when on the wing, even though soaring at a great height, by the white underwing coverts, the very short tail, the end of which appears to be on a level with the secondary wing feathers, and by the bright coral red cere and legs which are discernible from a great height. When on the wing this bird is to me the grandest and the most beautiful of all the Eagles; the very embodiment of aerial grace, it soars with the ease and lightness of a feather blown in the wind.

The African Buzzard Eagle (*Asturina monogrammica*) resembles at a distance a light-coloured Sparrow-hawk rather than an Eagle, it is comparatively common in Gazaland, where it haunts the trees bordering the rivers and larger streams, and is usually seen in pairs.

It is not at all shy, and will allow one to approach within a few yards. It is a pretty and inoffensive little bird, and seldom if ever preys upon the farmyard poultry, but it is always shot in common with the other Hawks by the farmers.

Waterfowl are conspicuous by their absence in the district immediately around Selinda, the reason being that even though there is an abundance of water, the rivers and streams are extremely fast flowing, and therefore are not conducive to an extensive bird life, I mean of aquatic fowl, who like swamps and broad shallow rivers where they find an abundance of food. The only bird besides small Crake, etc., that I saw was the Black-headed Heron (*Ardea melanocephala*), a bird which resembles the Common Heron in colour, but is larger in size and when on the wing can be distinguished by the pure white under wing-coverts.

The Tamborine Dove (*Tympanistria bicolor*) is met with usually singly in the thick undergrowth in the forest. It is exceedingly shy and timid, and very difficult to observe. It might easily be mistaken for a Thrush by the casual observer as it grubs about in the dead leaves under the bushes, for both in demeanour and colour it resembles a bird of that family.

Occasionally I have seen it in the cultivated lands of the Kaffirs on the edge of the forest, but even there it is very hard to observe, flying upon the slightest provocation into the dense bush.

The Emerald-spotted Dove (*Chalcopelia afra*) is the commonest Dove in the Selinda region except the Red-eyed Dove, which is almost the commonest of all the birds. It is found in small numbers in the densely wooded kloofs, and as it usually sits motionless in the dense vegetation it is very hard to find. It is shy and retiring, and if disturbed in fairly open country it will fly into a tree and sit on a thick branch close up to the trunk, and in that position is rendered almost invisible owing to the grey colour harmonizing so well with the lichen-covered bark.

It is a strange thing that all the Doves of Mount Selinda are so shy, because they meet with no persecution; the Lemon Dove (*Haplopelia larvata*) is no exception, for it is the shyest of birds, and one only gets a very fleeting glance of it as it flies away at one's approach. Upon

seeing the bird for the first time I mistook it for a Thrush, owing to its olive brown colouring and mode of flight.

The Lemon Dove only inhabits the parts of the forest where the undergrowth is the thickest, and there it can be heard walking about on the dead leaves, but it is a hopeless task to try and watch it, for upon the slightest sign of danger it flies up and after a short flight dives down again into the dense vegetation.

I once came across a bird of this species, caught in a native trap in the forest, it was hanging in the air by its legs, with the wings almost touching the ground, and in its struggles it had worn all the scales off its legs and the flight feathers from the wings. I brought it back to the homestead, where I kept it for a short time, but it eventually died, having I think, sustained some internal injuries when in the trap.

These Doves are practically terrestrial and only at rare intervals have I seen them perch in the trees, and this was only when they were disturbed from the ground.

At one season of the year these Doves gather together under a certain kind of forest tree, from which fall berries upon which they feed, the birds create quite a noise by grubbing about in the dead leaves; it sounds from a distance as though it were raining, often thirty or forty birds can be seen in a space of a few square yards.

The flight is very heavy and noisy.

The East African Guinea-fowl (*Numida mitrata*) is exceedingly numerous on the lower slopes of the mountain, where it lives in flocks of a dozen or more. From the terrace of the homestead, flocks could always be seen in the old cultivated lands. Frequently these birds indulge in a kind of play, chasing each other round and round, and jumping high into the air over the others backs. At night if one goes out into the bush-veld, the number of Guinea-fowl one disturbs in the trees is amazing. Usually they roost in small flocks, but occasionally I have seen them in pairs or singly.

On one farm that I visited were some ordinary Guinea-fowl, and very often a flock of wild ones would join them and come right up to the homestead. It was when the two species of birds were together that the great difference could be seen between them, the wild species is entirely black, whereas the other is grey, the spots on the feathers of

the former are much larger and more distinct, the helmet and wattles are larger and of a different shape, also the whole neck is rich blue, and the wild bird is also much slimmer in build.

I brought a bird of this species home with me, he was picked up when a tiny chick, and we thought that he was a young Francolin, and it was not until he began to get his spotted plumage that we found out our mistake. When on board the ship he showed great character, and proved to be a great pet, but on getting home he lost a great deal of his tameness, and struck up a friendship with a male Impeyan Pheasant, who had just previously murdered his wife.

The Crested Guinea Fowl (*Guttera edouardi*) is only found in the deepest recesses of the forest, where it is more often heard than seen. After the Crested Hornbill it is the noisiest of the forest birds, its cry is very much like the noise made by the old-fashioned wooden rattle, which was used in the good old days for scaring birds and if one happens to be in close proximity to a flock the noise is simply deafening.

Its presence can only be detected by its call; it is a hopeless task to try to find it otherwise, for it only creeps about in the densest undergrowth.

Taken young, these birds (so I was told) make delightful pets. A lady living in the vicinity of Mount Selinda told me that one she had would follow her about like a dog, even on long walking trips; it also kept order in the farmyard, stopping any dispute between the poultry and seeing that the chickens' food was not eaten by the adult birds—a truly useful acquisition to any farmyard.

This species is in my opinion by far the handsomest of the Guinea fowl, being preferable I think even to the blue Abyssinian Guinea-fowl.

The bird wanders about in the forest in small parties of five to twelve feeding upon seeds, berries, insects, etc. When disturbed, it flies up into the trees, mounting from branch to branch until it gets to the top

AUSTRALIAN PARRAKEETS

By THE MARQUESS OF TAVISTOCK and J. DELACOUR

Australia and its neighbouring islands are inhabited by many splendid Parrakeets which may be divided into two groups, *Polytelis* and *Platycercus*. The *Platycerci* are all birds for the aviary rather than for the cage, and win favour by their exquisite colouring, their power of enduring cold, their readiness to breed, and their comparatively agreeable voices. They are quarrelsome, especially with individuals of the same or nearly related species.

When a male and female are put together for the first time, they must be watched; if the male appears to be pleased with his companion, or indifferent, it should be all right, but if he shows signs of anger and attacks her, they must be separated at once if her life is to be saved, for there is little or no chance of their ever agreeing. With a male *Platycercus* hatred at first sight is generally enduring except in cases where he still remembers the mate from whom he has been parted. If the female gains the upper hand, they may live without serious fighting, but there is little likelihood of their going to nest.

Although the majority, if in good condition, can stand a low temperature, broad-tailed Parrakeets are sensitive to draughts and cold winds, and it is wise to make certain that they use their shelter, shutting them up in it at night, and during very bad weather. For satisfactory breeding results a movable aviary not less than 24 feet by 8 feet by 3 feet is desirable. They will nest in much smaller aviaries of the usual fixed type, but the young, if any are reared, are usually worthless for stock purposes.

I. THE *POLYTELIS* PARRAKEETS

The genus *Polytelis* bears some resemblance to the *Palæornis* Parrakeets, in which they were included for a long time; they are very fine birds, and easily kept when their requirements are understood. They are found in Australia and some of the Oceanic Isles.

BARRABAND'S PARRAKEET (*Polytelis barrabandi*) inhabits east and south-east Australia. The sexes can be easily distinguished. The male is brilliant grass-green, black under the tail, the flights and rectrices washed with blue; forehead, cheeks, and throat golden yellow, with a

wide red stripe below the yellow of the throat ; beak red, irides yellow, and feet pale grey. The female is a duller green, has no yellow on the head nor a red throat, but beneath the tail she is black and pink, and she has red thighs. The young resemble their mother, but the males from the first show faint indications of yellow and red where those colours will eventually appear ; at first they have red thighs, but these disappear as they grow older. They are about the same size as the Ring-neck Parrakeet, and have small beaks and long pointed tails.

Barrabands do not scream, but their call is too piercing for indoors, and although they will live in a cage it is a pity to shut up a bird, one of whose chief features is its immensely powerful flight. They thrive infinitely better in an aviary, and several pairs can be kept together, either by themselves or with odd birds of either sex ; it is not even necessary always to separate them when breeding, though a hen will sometimes sulk and refuse to lay if another takes possession of the nest which she covets.

Barrabands are very ready to breed in confinement, but unless their aviary is roomy they will only lay a few eggs and most if not all of these will be clear. Once acclimatized they are quite hardy. Now and then a delicate individual may take cold, but this is the exception rather than the rule. The young need more protection than adults during the first winter, but do not usually require artificial heat.

Freshly imported specimens are liable to two troublesome diseases. The first is paralysis of the feet and legs, which may come on suddenly. The cause would seem to be too dry and heating diet after semi-starvation caused by fear, which prevents them from eating freely during the voyage. Many newly caught Barrabands die in this way and the danger is not over for two months after their landing. Escaped individuals recaptured when tired and half-starved may suffer in the same way unless they are fed on soaked canary seed and fruit and some kind of purgative is mixed with their drinking water. I do not know a certain cure for paralysis, but cod-liver oil in their drinking water may do some good.

A still worse trouble among freshly imported Barrabands is a disease which causes swelling round the eyes, which irritates the bird, and i

time brings on weakness, blindness, and eventually death. It appears to be contracted in the dirty travelling boxes used by the Australian catchers and dealers, and often makes its appearance on the voyage. It is contagious, though not extremely so, but a diseased bird may pass it on to another in the same aviary. It usually appears some days or weeks after landing, but occasionally it lies dormant for months, and a bird may even have moulted and shown a desire to nest before it develops.

I do not know any positive cure for this disease. If the weather be fine the birds are better in an outside aviary, with perches that can easily be cleaned with a non-irritant disinfectant. Everything should be done to improve the general health of the sufferers, and there is reason to hope that after a long time some of the less serious cases may recover completely. Birds which are badly affected are best off in cages where they have their food close at hand.

A cock Barraband whose hen is shut up in an aviary is a delightful bird to have at liberty, but care must be taken to ascertain that he is really paired, or he may leave if he has a companion of his own sex at liberty with him. A cock Barraband may court and even feed a hen without being actually mated to her, but once this has taken place he is the most faithful and devoted of husbands. A pair should never be liberated together, or they will certainly be lost. Owls are to be feared, but it is not difficult to train a cock Barraband to return to his aviary through an inward-pointing funnel of wire netting for his evening feed; once inside he cannot find the way out again, and will stay in until he is let out the next morning.

Barrabands should be fed on canary, oats, and millet seed, with fruit and green stuff: some of them like mealworms. They do not often damage shrubs in their aviary.

The ROCK PEPLAR PARRAKEET (*P. melanura*) from South and West Australia, is another very beautiful species, slightly larger. The male is yellow, deepening to olive on the head and back, the tail bluish, flights of the same colour but the lesser wing coverts are yellow, and the greater red or black; the mantle is olive green, beak red, feet olive grey. The female has her yellow parts very olivaceous and a dark green tail edged with pink. The young resemble the female, but the

males may be distinguished by their thicker and bolder heads. They also soon begin to chatter and call as they sit on a perch in a way that hens never do.

These Parrakeets do not live long in close confinement, and suffer from heart disease, but if allowed a spacious, movable aviary, they do very well, and are hardier than Barrabands. They are equally willing to nest, but unless their aviary is really large, most of the eggs will be clear. This species is more quarrelsome than the Barraband, and adult pairs do not live peaceably together. The cocks can be kept at liberty in the same way as Barrabands. The rapidity and agility of their flight are positively astonishing, and it alone would make them desirable even were their plumage no more ornamental than a Crow's! They are not hard to tame, and some have even learnt to speak and whistle. Their food should be the same as given to the Barrabands, with the addition of hemp and sunflower. Newly imported birds are liable to eye disease, but I have never seen a case of paralysis of the feet among them.

QUEEN ALEXANDRA'S PARRAKEET (*P. alexandræ*), perhaps better known as the Princess of Wales's Parrakeet, has been removed from the genus *Polytelis* by North, and placed in a separate genus, *Spathopterus* on account of the presence of spatules at the tips of the second flight feathers. There is no doubt, however, that it is a *Polytelis*. Although abundant in its native place—the deserts of central and west Australia—it has always been rare in Europe and has never been freely imported. It is one of the most beautiful and graceful of the whole family, its colouring being exquisitely soft and harmonious.

The male of this species is slightly smaller than the Barraband, and has the back of the neck, the mantle, back, and flights ashy olive green washed with blue and yellow; the wing coverts are pale greenish yellow; the rump is pastel blue, the median rectrices golden green the others blue grey outside, pink inside; the top of the head grey blue the face, throat, and front of the neck pink, as are also the thighs the under parts pearly grey; the beak bright pink, eye yellow, feet pinkish grey.

The hen bird is smaller, and her colours are not so bright, her head and rump are grey rather than blue, and she lacks the curious spatule

which the cock wears on one of his flights. This species is not as hardy as the Barrabands and Rock Peplar and requires more protection from the cold ; it is a good plan to shut it up at night, and watch it carefully in bad weather and during the moult. Acclimatized specimens can, however, do without artificial heat.

Queen Alexandra's Parrakeets are quite ready to go to nest in an aviary, but unless it is really spacious few eggs are laid and the male birds are often sterile. Several adults will usually agree together, but pairs kept by themselves in the breeding season are more likely to be successful. They should be given the same food as the Rock Peplar, with addition of a few mealworms, of which they are very fond. They are particularly gentle and confiding, and will feed from their master's hand ; they like to be noticed and spoken to, although, like many Parrakeets, they object to being handled. They can occasionally be taught to speak and whistle, but it is a mistake to make a pet of a cock from whom one wishes to breed, as in all probability he will come to prefer his master to his own mate.

The late Mr. Astley was the first to breed this species, and until his lamented death in 1925 he kept a small flock in his aviary.

Hybrids have been obtained between Barraband and Rock Peplar, and between Barraband and Queen Alexandra ; also between this last and the Crimson-wing.

We now come to the genus *Aprosmictus*, of which the King Parrakeet is the typical representative. They are larger than the preceding species, with more ample wings and less pointed tails.

The genus contains several species and sub-species, but only one is freely imported.

THE KING PARRAKEET, *A. cyanopygius*, is a magnificent bird, and comes from South Australia. The male bird has the head, neck, and under parts of the body dazzling scarlet, the wings and mantle are deep green, with a pale green stripe across the shoulders ; a spot at the back of the neck, the lower back and rump are dark blue ; tail bluish black, beak red and black ; yellow irides, feet black. The female has a green head and neck, and her beak is blackish. The young of both sexes strongly resemble the adult female, but the upper mandible of young cocks turns red before their plumage changes. A well-defined

pale green stripe across the wing of a green-headed bird is a possible sign of a cock, but not a certain one, as some hens also have this stripe though it is lacking in the majority of cases. They assume adult colouring more or less after the first moult. A yellowish tinge in the red parts of a cock bird is either a sign of illness or abnormality, and is not, as some dealers assert, due to youth.

The King Parrakeet is hardy and easily kept, if protected from wind and wet, and can stand any amount of cold when once acclimatized. It should have the same diet as the Rock Peplar with addition of monkey nuts and a generous allowance of mealworms. It goes to nest readily, but clear eggs are the rule in a small aviary. The hen may refuse to lay in the ordinary type of log or box nest; she often prefers a very deep one something in the style of a tall clock case with a hole near the top, where the dial would be. The box should be lined inside with wire netting to enable the bird to climb up and down; a natural log of the right shape is best of all. The King will live in a cage, and is not noisy, but kept in this way they mope and become apathetic, and are neither happy nor interesting.

Pairs of Kings are not very satisfactory at liberty, but a cock whose hen is kept shut up is ideal and can be strongly recommended to a beginner. He is a good stayer, does no damage, and is too big to be attacked by birds of prey; he is wonderfully handsome, too, with his fine plumage and elegant flight. He is also quite peaceable at liberty with his own kind and sex. He may perhaps eat a few ripe apples, but will not do serious harm in a garden. In the aviary Kings hardly ever molest small Finches.

THE GREEN-WINGED KING PARRAKEET (*A. chloropterus*) from south-east New Guinea resembles the above, but the pale green band across the wings and the blue spots on the nape and rump are much larger. The hen has a green head and neck.

THE AMBOINA KING PARRAKEET (*A. amboinensis*) has a carmine red neck and under parts and green wings; the back, rump, scapulars the edges and underneath the wings deep blue; the tail bluish black the hen is like him, only smaller and less brightly coloured.

THE SULA KING PARRAKEET (*A. sulaensis*) is smaller than the above, the sexes are practically alike. A female in my possession has

lived several years in an outside aviary and has laid and sat twice in a year, even when unmated.

THE CRIMSON-WINGED PARRAKEET (*Ptilinopus erythropterus*) from north and west Australia, is very nearly related to the King. The male is slightly smaller than his mate, and is a very splendid satiny green, with black mantle and scapulars; the middle of the back is brilliant blue, and all the wing coverts are scarlet. The beak is yellowish red; eye red brown, feet grey. The female has no black and has less red about the wings.

Although it is liable to eye disease when freshly imported, like its relative the King, and to attacks of contagious fever, the Crimson-wing may fairly be called hardy. It goes to nest readily, has the same requirements as the King, but it is not always easy to obtain a fertile male bird. Although it is one of the gaudiest and most brilliant of Parrakeets, it must be admitted that the beauty of the male is wholly exterior. He is quarrelsome and unfaithful. When a pair are put together, the cock often attacks his mate, and drives her about viciously. Sometimes, just when one is about to take her away, he will begin to make advances, and directly afterwards they become good friends. At times he drives her about for a month or more, and then makes up to her, or he may never take to her at all, although they are both in breeding condition. They require a large aviary in order that the hen can get away from the cock, and if he becomes too aggressive a few wing feathers may be clipped so as to limit his power of attack. If unprovided with a "clock case" or deep natural nest, the hen will sometimes prefer to lay on the bare ground sooner than use an ordinary log.

Though Crimson-wings may roam rather far away from their homes, they would really be very good birds at liberty, were it not for their inveterate habit of going down chimneys. Every now and again one comes across a cock who lacks this fatal curiosity, and he will live out for years, to the great delight of his owner.

This species should be fed on the same mixture as the King. It has been crossed with the King and with Queen Alexandra.

The splendidly coloured Parrakeets of the genus *Pyrrhulopsis* are natives of the Fijian Isles. Although in appearance they slightly

resemble the King, their habits are very different. They have stronger beaks.

THE RED-SHINING PARRAKEET (*P. splendens*) from Viti Levu and Kandavu has a carmine head and under parts ; a blue stripe on the nape ; black and rump green ; wings blue and green ; tail blue ; iris orange ; beak and feet black. The sexes are alike. This is a delicate species in captivity, being subject to a kind of chronic enteritis as well as to tuberculosis and other diseases. It does better in a room or a large indoor aviary than in a cage, especially if it is timid, which is sometimes the case.

The diet should consist of canary, hemp, oats, and sunflower seeds, along with monkey nuts and plenty of fruit.

This species utters two different calls, a soft cry and a strident scream. Some specimens learn to talk. I found them gentle in an aviary, but other people complain that they are aggressive. It is said that in its own country it is often tamed, and can then be left at liberty.

THE TABUAN PARRAKEET (*P. tabuensis*) from Vanua Levu differs from the preceding in having its head and under parts rich mahogany purplish red ; it is occasionally imported together with an allied species *P. taviunensis* from the Island of Taviuni which may be distinguished by its smaller size and absence of blue on the nape, and another intermediate species *P. koroensis* from Koro Island. These are all very choice and fine birds.

THE MASKED PARRAKEET (*P. personata*) has been practically exterminated by Mongooses. It is green, with a black face, the middle of the breast yellow, and the middle of the belly orange, the wings and tail washed with blue.

I once owned a very old specimen who was allowed his liberty during the summer. Although he hated being handled, he was friendly and liked sitting on one's arm or shoulder, but at times he would viciously attack women's ankles. He was afraid of other birds, and avoided them, but I once saw him happily feeding at the same dish with an enormous rat ! He ate everything he could find, and drank ink, cod liver oil, and every kind of medicine, so that it was astonishing that he lived so long !

His only natural cry was piercing and harsh, but he made up for it by speaking fluent English, and imitating dogs and cats. He walked more like a Pheasant than a Parrakeet, and his heavy flight was very peculiar, and not at all like that of other Parrakeets ; it consisted of a succession of slow wing beats followed by a glide.

AVICULTURAL NOTES

We would commend to the notice of our members a very excellent book that has been recently published entitled *Notes on the Game Birds of Kenya and Uganda* (including the Sand-grouse, Pigeons, Snipe, Bustards, Geese, and Ducks). It is written by Sir Frederick J. Jackson, K.C.M.G., C.B., etc., than whom there is no one better qualified for such a task, for he has spent a great part of his life in East Africa and, during more than thirty years there, has spent his spare time in the pursuit of natural history.

Although Sir Frederick will always be remembered as a very successful Governor of Uganda, he is perhaps better known to many as an ornithologist, and we are very pleased to hear that he hopes later on to be able to deal with all of the birds of Kenya and Uganda. The present volume is published by Williams and Norgate, Ltd., at 25s. net.

Mrs. Prestwick kindly sends the following notes :—

The membership of the Society now numbers 433, the highest since 1910, with 444 ; the record year was 1909, with 451. The 500 mark should be reached by the end of this year, if members will make a special effort.

The Society is now in its 33rd year, and it is pleasing to note that there are still six original members (October, 1894), namely, James Cooper, H. R. Fillmer, James B. Housden, Mrs. Mortimer, W. H. St. Quintin, and S. M. Townsend. There are seventeen members who joined before 1900, including our worthy Editor, December, 1894 ; Nicholas S. O'Reilly, December, 1894 ; E. G. B. Meade-Waldo, January,

1895 ; Henry Thomas, January, 1895 ; W. J. G. Reid, February, 1895 ; Miss H. K. O. Walker, February, 1895 ; William B. Gibbins, June, 1895. Long may their membership continue.

La Société Nationale d'Acclimatation de France has awarded silver medals to our members as follows:—Mr. Herbert Bright for breeding Grayson's Dove (*Zenaidura graysoni*) and Wells' Dove (*Leptoptila wellsi*). Captain H. S. Stokes for breeding the Nyasa Lovebird (*Agapornis lilianæ*), all for the first time in Europe.

Members will be sorry to learn that Mr. F. G. Hedges has lost his famous hen Gang-Gang Cockatoo "Tut", the first of its kind bred in Europe. Death was from pneumonia.

It will come as a pleasant surprise to many to know that Madam Pavlova is an ardent bird lover. On her return from Australia, a few months ago, she brought a large collection of Australian Finches and a very fine pair of Grass Parrakeets. The Finches are now housed in a super indoor aviary, erected by one of our Beaconsfield members.

CORRESPONDENCE

COLOUR BREEDING IN BUDGERIGARS

SIR,—I was very pleased to see your notice on the Budgerigar Club booklet, and should like to point out a very essential item that Professor Duncker appears to have missed.

In colour breeding in all stock, there are two ways of producing new colours and shades, first by sports and selection, and second by crossing these shades and colours to get other shades and colours. From the table at the bottom of page 15, it might appear that all the colours and shades were produced from sports or selective breeding, whereas Cobalt, Mauve, and Maygreen (apple-green) are produced by crossing two or more of the other colours or shades.

About thirty years ago I produced Blue Japanese bantams and have always been interested in colour breedings, and I consider this point should not be lost sight of.

JOHN W. MARSDEN, F.Z.S.

SIR,—Although only Budgerigar episodes, perhaps the following notes will be interesting to the members of the Avicultural Society.

All my Budgerigars are blue-bred greens from well-known strains, and during 1925 did very well in turning up several blues and at that time I had no blues in the aviary, but during 1926, without any selection whatsoever (other than the birds themselves), a pair of my own young ones of 1925 produced in their first nest one good blue, two greens, and two white.

The white are as pure as any I have seen at the shows, the dark markings almost eliminated and just a tinge of the palest delicate blue on the under parts and between the wings. They are a very clean white too, not looking like a washed-out and dirty blue, as some so-called whites do. All my birds live summer and winter in an entirely unheated garden aviary; there is a shelter shed attached, but that is only closed in on three sides, the birds fly in and out at will, and often spend the night on the open flight. The whites seem very hardy and bonny.

In another rather interesting nest two hens laid and nested together, they laid eleven eggs, nine of which hatched out and were fully reared. Two of these were good yellows, one a nice deep blue, and the other six greens.

I have other blues, but these came from a blue pair in another enclosure similar, the hen being one of my own from 1925 and the cock from the late Mrs. Dalton Burgess's strain, but of course, being a blue pair not at all remarkable, but that a pair of greens should produce whites seems worthy of comment. The whites I believe to be a pair.

ALICE CHATTERTON.

ESCAPED BIRDS

SIR,—The following coincidences will, I think, be of interest to your readers:—

(1) In the early summer a hen Flamingo flew away from my aviary at Lake in the Avon Valley, seven miles north of Salisbury, in an easterly gale, and, in spite of much advertisement, I have heard nothing of it until now.

Mr. McEuan, of Richmond House, Hayling Island, wrote a letter in *The Times* on the subject last week, and has been good enough to write to me personally in addition. He tells me that the bird was first seen by one of the punt gunners in the neighbourhood last August, and has since frequented Hayling Bay. It is very wild owing to the frequent attempts which have been made to shoot it. Sir Thomas Troubridge also writes to me from Beaulieu that a Flamingo was seen there on the 21st September, which flew in from the east and pitched near the mouth of the Beaulieu river, and remained for a day.

(2) Further, a Scaly-breasted Lorikeet escaped from my outdoor aviary in September, was seen about the garden for a day or two, and then disappeared. A naval friend of mine who was in H.M.S. *Royal Sovereign* told me the other day that a bird of this description flew on to the ship when she was eighty miles from land in the North Sea and was captured, and is now safely at the home of the captain of the ship. Unfortunately the bird was not ringed, so it is impossible to prove anything. Owing to the rarity of the species in England, it is extremely likely to have been my bird.

F. E. E. BAILEY, *Lt.-Col.*

BIRDS RETURN TO DESERTED NEST

SIR,—So far as my own experience of birds during nesting has been, the usual proceedings have been that when a pair deserted a nest, which they had made considerable progress with in building, and then chose another site, that pair has deserted the original nest finally and for the rest of the season. But last year a pair of Robins acted differently in that they started early in March to build a nest in a shed in the garden, where several bits of netting were stored up, some placed against the wall; and soon a large collection of dead leaves, about 15 inches long, were placed on top of a heap of netting, just where it touched the wall. Now as Robins will build in all sorts of peculiar places, there was nothing unusual in such position, nor in the fact that as the nest got disturbed (by the netting being later accidentally moved a little by a man) the Robins retired from it and started a second nest

outside the shed, this second nest being in a hedge several yards away.

Then came what seems to me the peculiar part of their behaviour. After working for about ten days in this second building, where they were undisturbed and collected a mass of leaves larger than a coconut—during which time they were *never* seen to re-enter the shed above mentioned—they suddenly, one day, both re-entered the shed, and began again to work at the original nest, where they soon reared a brood (all of which flew in safety). There was no doubt that it was the same pair of birds; and nothing was added to the second collection of leaves in the hedge after the day when the pair returned to the shed.

FREDERICK D. WELCH.

AN AUTOMATIC LIGHTING DEVICE

SIR,—It may be of interest to our members to hear of a lighting arrangement that I have adopted for one of my aviaries, and which is giving every satisfaction. I have a six-volt 60 amp. accumulator (the bigger the amperage the better) and a small Osram lamp and an electric timing clock such as is advertised for wireless. I set the clock to light up at 5.30 a.m., and to shut off at 8 a.m. The birds are busy feeding by 6 a.m., and can continue to do so, for when the light shuts off it is daylight. The clock can be set to any time that is required, but I have found the above times very suitable for breeding Budgerigars during the long nights.

B. JACKSON.

KEEPING BEE-EATERS

SIR,—In the January number of the Magazine I notice a reference to the probable difficulty of keeping such birds as Bee-eaters through the winter, when mealworms are the only available live insect food. I wonder if it would be possible to supplement the mealworms diet with the cluster fly (*Pollenia rudis*)? This insect, which is somewhat

larger than the house-fly, enters many country houses in autumn in very large numbers for the purpose of hibernation, and is easily captured on windows. There is no difficulty in keeping it alive until the spring if it be confined in a place which is sunny, but not too hot, and be supplied with moisture and a little sugar. Water is an absolute necessity to the flies, and must be provided in a way which will ensure their finding it without drowning themselves.

Being a perfectly clean feeder, the cluster fly is not unpleasant to keep and handle, and should be a wholesome food for delicate birds.

TAVISTOCK.



The above drawing of the head of the Javan Jungle-fowl cock (*Gallus varius*) is by Mr. Frank Finn, and we are grateful to him for permission to publish it, as it illustrates the chief characteristics of this species, namely, the un-serrated comb, single wattle, and the short, truncate feathers of the neck.

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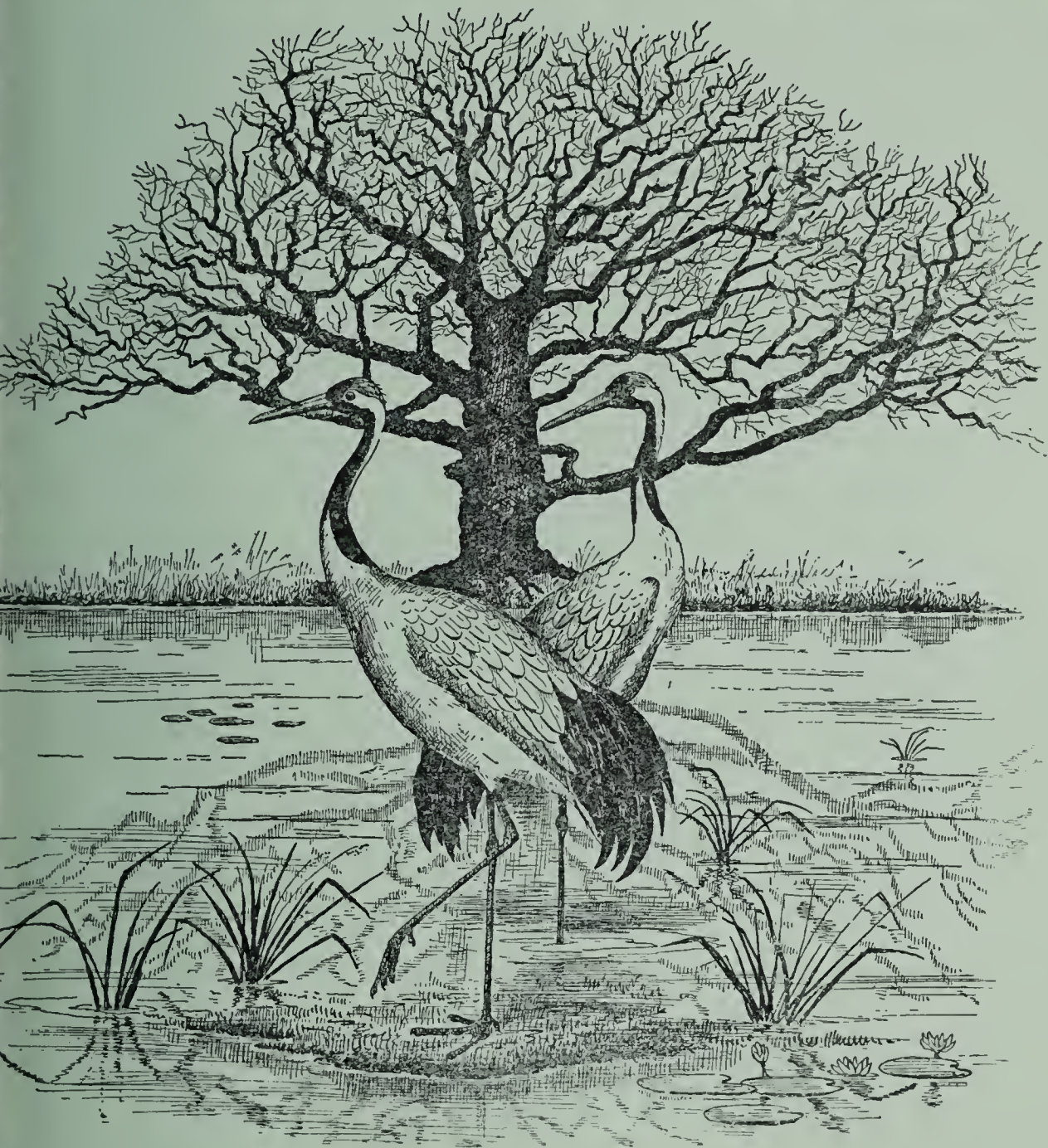
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THE AVICULTURAL SOCIETY.

FOUNDED 1894.

NOTICE TO MEMBERS

The Subscription to the Avicultural Society is £1 per annum, due on the 1st of January in each year, and is payable in advance. The entrance fee is 10/6. The *Avicultural Magazine* is sent free to members monthly. Members joining at any time during the year are entitled to the back numbers for the current year, on the payment of entrance fee and subscription.

ALL SUBSCRIPTIONS SHOULD BE SENT TO THE HONORARY SECRETARY AND TREASURER, MISS KNOBEL, 32 Tavistock Square, London, W.C.1.

All Queries respecting Birds (except post-mortem cases) and all other correspondence should be sent to the Hon. Secretary, at the above address. Any change of address should be notified to her.

POST-MORTEM EXAMINATIONS.

Rule 1.—A short account of the illness should accompany the specimen. All birds to be sent as fresh as possible to Mr. C. H. HICKS, The Prosectorium, The Zoological Society of London, Regent's Park, London, N.W. 8.

Rule 2.—Should any member require an immediate reply, a stamped addressed envelope must be enclosed with the bird.

Rule 3.—No body or skin of any bird will be returned under any circumstances whatever.

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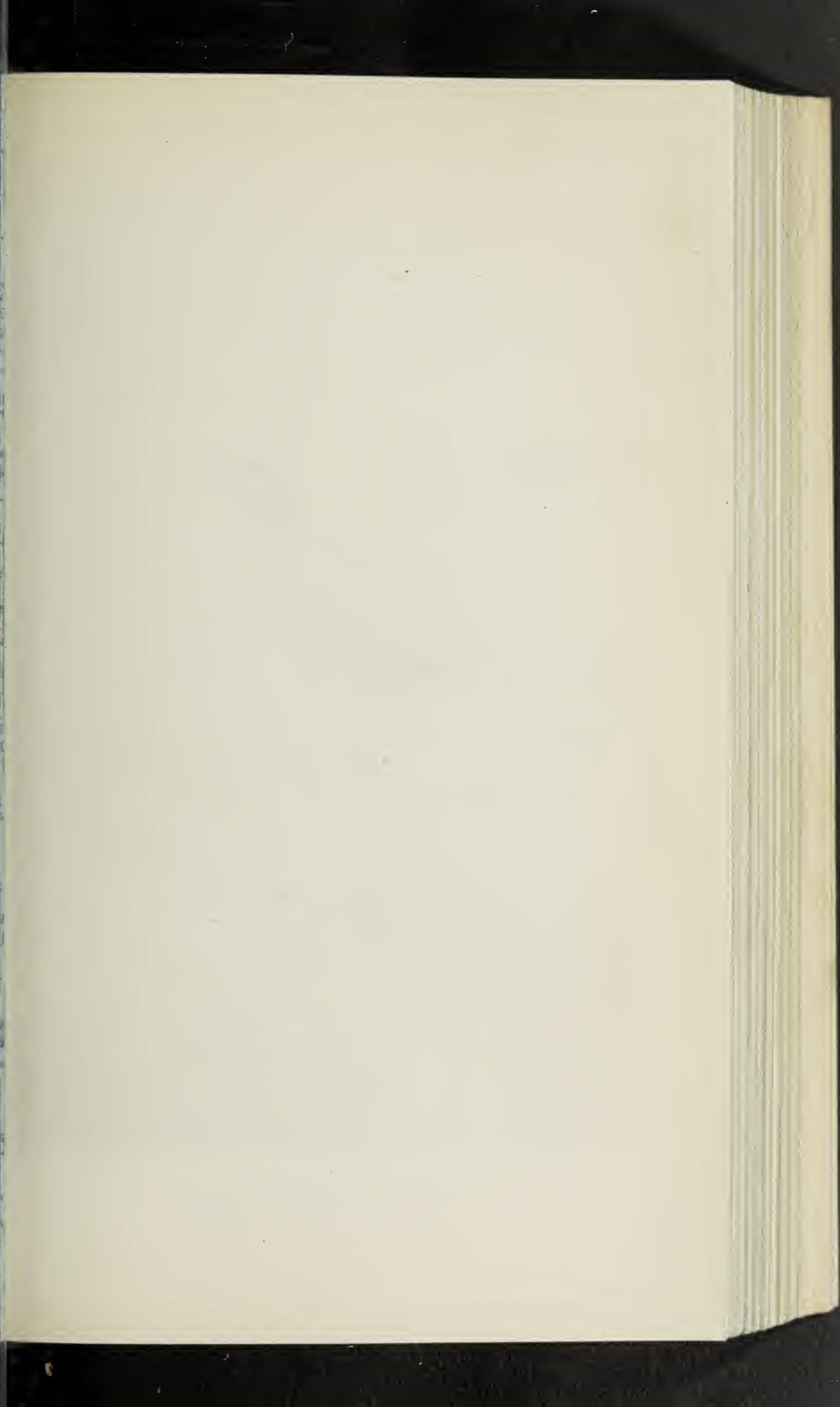
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John Bale, Sons & Danielsson, L.

Wallace's Bird of Paradise,
Semioptera wallacei (Gray).

THE AVICULTURAL MAGAZINE

BEING THE JOURNAL OF
THE AVICULTURAL SOCIETY
FOR THE STUDY OF
FOREIGN & BRITISH BIRDS
IN FREEDOM & CAPTIVITY

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MARCH, 1927.

WALLACE'S BIRD OF PARADISE (*SEMIOPTERA WALLACEI*)

By WALTER GOODFELLOW, F.Z.S.

For many years I had had a great desire to see this bird alive, and intended when an opportunity came, to make an expedition to its island home and be the first to introduce it to Europe, but the war and other things intervened, and my hopes were not fulfilled until 1926. It is certainly not one of the most beautiful members of this gorgeous family, but there was always something about its eccentric appearance which appealed to me irresistibly, and now that I have succeeded in capturing and safely landing over here five examples, I confess that far from being disappointed, I am more in love with it than ever. In fact, I may as well say at once, that of all the Paradise Birds I know so far, this is my favourite. Therefore, if I seem to some who have now seen it to be too enthusiastic, they must excuse me. At the same time I am sure that anybody who has kept one as long as I have will understand my infatuation for it. Their tameness, inquisitiveness, and merry ways, could not fail to appeal to everyone. They seem entirely without fear, and this applies to them equally in their native jungle. They take an intelligent interest in all one does, and at the same time keep up a merry chatter; in fact, their repertoire of notes is extraordinary,

sometimes reminding one of our English Starling on the chimney stacks, bubbling, gurgling, and producing occasional explosive sounds which shake their whole body. Other notes are reminiscent of the King, and still others of the Rifle Bird.

Wallace first discovered the bird in the fifties of last century on the island of Batchian, or, to write it more correctly, Batjan, one of the Moluccan islands; perhaps the most beautiful of them all. Having been almost all over the globe, I think I can say that these islands are the most exquisite in all this world of ours. Later, it was found to occur also on the much larger neighbouring island of Halmaheira, or as we write it on our maps, Gilolo; although Gilolo (or, rather, Djailolo) is only a small town on the western side, nearly opposite to the better known island of Ternate. My birds came from Halmaheira and belong to the sub-species *halmaheræ*, which has longer shoulder plumes than those from Batjan, and a more metallic violet shade on the top of the head.

Perhaps, apart from the wonderful emerald green, resembling rich silk, of the elongated breast shield, the first thing to strike one about the bird, is its long flat head, which gives it a rather reptilian appearance. In spite of this flatness, the bird is by no means stupid, quite the contrary. The two long feathers which spring from each shoulder, arising from two horny sheaths and are elongated spatula, whitish towards the ends. These when at rest hang straight down towards the feet, but when the bird is excited, and even at other times, stand out at right angles to the body with a wild-Indian-like effect.

I had always understood the Malay name for the bird was "Burong poelet", the Epaulet Bird, but on Batjan I failed to find anyone who knew it. The island has only a very small population, including five whites, and is everywhere covered with dense virgin jungle, right to the top of the mountains; the most conspicuous peak being Goenong Zibella. Failing to find anyone there to give me information about the bird, I continued on up to Ternate, where reside many merchants in the Paradise plume trade. Still among them I found only one who knew the "Burong poelet" by name only. He said he must have had some of the skins, although he could not recall what they were like, and I believed they came from Patani, South-East Halmaheira. So to Patani

booked by the first monthly boat, and so elusive did the bird seem, it was like chasing a will-o'-the-wisp. Everywhere I inquired, all told the same tale, "No Birds of Paradise were found on the island." At length, when calling at Tobello on the north coast, where the Dutch have a military post, I came across a man who had been a plume hunter in New Guinea. He knew the bird and correctly described it. From him I learnt that the local name was "Vecca-vecca" (nearly all birds' names are doubled out there), that he had seen a few occasionally in the jungle, knew nothing whatever of their habits, and thought it would be very difficult to catch them alive. As this information did not seem very promising, I thought it best to continue the journey to Patani, several days further on.

We arrived at Patani early one morning, and I was quickly on shore, having left all my baggage and stores on board until I had made further inquiries. I went to the house of the "Kampong Kapala", or head man, who seemed very surprised when I told him what I was searching for. "Oh yes," he said in Malay, "you mean the Wacca-wacca, there are many here." Naturally I took this to be the local pronunciation of "Vacca-vecca" up north, so hurried back to the boat and landed all my gear. About an hour later the boat having already left, and as I was arranging myself in a native house, I received a visit from several of the head men of the village to know exactly what it *was* I wanted. I explained that I had come from my country on the other side of the world to get "Wacca-waccas". One replied: "There they are," and on looking through the open door, I saw many large black crows among the coco-nut palms outside! My ship was barely out of sight, but had it been still in port I am sure I should have gone back with her instead of being obliged to waste a whole month with no better prospects than crows. Vainly I tried many times later to make them understand the bird I wanted, minutely describing it. At length I made a fairly good sketch of one, when one old man present exclaimed "the Burong Plet" (but sometimes they pronounced it "Pleti"). Hunters from Tidore had been there years before and shot some. Still I could not hear how far away I should have to go to find them; therefore I engaged several men to go in different directions to try and locate them. These men were most uninterested in the whole affair. I doubt if some

of them went at all, but others did report the results of their search. I learnt that at one place five birds had been seen, and in another three or four, but what I wanted them most to find were the feeding trees, or dancing places, otherwise I did not see how I could catch them. In this I had no success. One morning at daybreak I started off with the men, when after a four hours' scramble and climb over sharp coral trails, tumbling repeatedly, cutting hands and feet, we at length came to rather high jungle where at last I did see three or four birds very high up in the trees, looking very small in the distance; but there was no doubt about their really being Wallace's. They all had green breasts, and seemed to be just moving along, and were soon out of sight. The following day I visited another locality in the opposite direction with still worse luck, for we did not see even one bird, but finding a small palm leaf shelter there I got my Indian boy to stop the night there with one man to see if they could come across any in the very early morning, the distance from Patani being too great to get there early enough when the birds might be about. When he returned the next day he informed me he had seen one or two birds, but could not find any feeding trees. Things remained in this unsatisfactory state for a long time. The people lost all interest, and evidently had no knowledge how to catch birds, and in vain I tried to enlist their help. These people are not jungle folks, but purely coast dwellers, cultivating little beyond coco-nuts, and feeding chiefly on sago and fish. The whole of the interior of the island seems to be uninhabited by any tribes.

During this time I was not idle myself, and as far as I could, without a guide or trails to follow up, I made many short journeys to the jungle-clad hills at the back, till all my shoe leather was worn through on the sharp outcrop of coral which one encounters everywhere. My body ached with rheumatism all over, through being constantly wet, and sometimes sleeping out all night in the rain.

By the beginning of the third week I think I had abandoned all hope of ever getting Wallace's Standard Wing; then one night a man came to me mysteriously, and said he knew a place where they abounded. How many did I want, and what would I pay for them? etc. etc. All this sounded too good to be true, especially as he was now willing to take me along with him. Then another week, and still more

Further news. The weather too was very wet and stormy. Real south-east monsoon. I had just one week left before the boat was due to call for me, and the only Birds I had managed to capture so far were a pair of Insular Lories (*Eos insularis*) and their young one, caught on the nest; four Sun Birds, and a good number of Three-coloured Parrot Finches (*Erythrura trichroa*). This was the sum total of my collection, but nice as these were, I had not come all that long journey just to get them. I had other islands still to visit, and it was now the end of June, and I naturally wanted to get home before the cold weather set in over here. Then the man I have mentioned turned up again. He said the birds were still there, but he could not catch them, so came to enlist my help. I arranged to go with him early the next morning, and he insisted that we must start before daylight, so that the villagers should not see the way we went. Before daybreak we were off; the party consisting of the man and his young son, myself and my Indian servant. After the same hard climbing up and down, perhaps three hours of it, we came to a stunted kind of jungle. A few enormous trees grew here and there, but the majority were saplings of 30 or 40 feet high, straight, and with few branches, and these quite short; very little undergrowth, in some places none at all. Perhaps after being disappointed so many times, my surprise may be imagined when I saw in comparatively low trees at the very least thirty Wallace's Birds. I really could hardly believe my eyes, and out of all this number possibly not more than two females, or birds in brown plumage. The others seemed to be all fully adult males. My guide had certainly done his best to catch them. He must have put up scores of limed twigs, some being long tapering bamboos 20 or more feet long, with lime on the extreme ends. This bird-lime is made out of the sap of the breadfruit-tree, and in the Aru Islands I have myself caught *apodas* with it. In the present case I think it had been badly prepared, as he said the birds had repeatedly settled on it and were not held. The birds were all constantly on the move, flying backwards and forwards from tree to tree with a great fluttering of their wings, and at times hanging in all sorts of positions from the slender branches, some turning round and round like a cartwheel, and all the time making a variety of squawks and calls. Wallace, in his *Malay Archipelago*, speaks of their restless

movements, and emphasizes a habit they had of clinging to tree trunks after the manner of Woodpeckers. I think from his description I had always imagined this was a common habit of theirs, therefore I was looking for it, but never once saw them do it. I can quite believe, however, that they may do so, for even in a cage they are constantly hanging upside-down, turning round and round the perch, and assuming all manner of queer attitudes. Wallace also says: "The females and young males far outnumbered the fully plumaged birds, which renders it probable that the extraordinary accessory plumes are not fully developed until the third or fourth year." This was the opposite to my experience, for I did not see one half-plumaged bird among any I came across. It may be that the females were away nesting during June and July, and that the one or two entirely brown birds which I took to be females were really young males.

Although we were plainly visible, the birds were not in the least alarmed at our presence; in fact, some came lower down to look at us, and one or two came within 15 feet. Neither then nor on subsequent visits could I find any fruit-trees in the neighbourhood, and I never did find out what they live on. Of course, it would have been easy enough to have shot one to see what it had in its stomach, but this would have frightened them away, the very last thing I wanted to do. Wallace, again, says "They seem to feed principally on fruit, but probably take insects occasionally". My experience now is that they are *very* insectivorous, and certainly prefer green-coloured insects, with a pronounced partiality for the large soft-bodied grasshoppers, nearly 5 or 6 inches long, which live on the branches of the coco-nut palms. It was a lesson in anatomy to watch the expert way they dissected these insects, and also the large tropical cockroaches. These preferences were, of course, noted in the early days of their captivity. They naturally change later.

Looking at the birds from below, in the jungle, they appeared to be so very light in colour, almost white. The under sides of the wings are whitish, but I don't think that accounted for it all. After we had caught the first bird, the man remarked: "There must be two kinds, for the others are white." I saw some of the birds with their green breast shields elevated, not horizontally, but perpendicularly, so that the head

only is seen looking through at the deep V-shaped base of green feathers. At this time the long shoulder plumes stand out at right angles below the shield. These whitish plumes are constantly raised and depressed. The short scalelike feathers on the top of the head, which are silvery purple, also seem to undulate with a curious effect. Of course, this I only noticed in captivity, as it requires a certain position of the head to show it off, otherwise this colour effect is not even suspected.

As I have before said, I was always looking for their dancing places in the jungle, but I now feel certain that these low trees formed a dancing place, and what I saw there, the display, otherwise why did they frequent more than any other spot, for it certainly was not their feeding ground? I spent the remainder of the first day at this place and noticed that at midday all the birds disappeared. A few, I believe, remained in the dense top of one of the great trees near by, and came out again for a short time later in the afternoon. It did not take me long to note that certain trees were more frequented than others, so the next day we started to put up the nets. The trees were far too slender to allow of anyone but a very light person climbing them, so I sent my Indian boy up. As he was arranging the first net one bird came within yards of him to watch the proceedings and as soon as the boy came down it went and shook the net with its bill. I was standing at the base of the tree and at once gave it a shake, when the bird flew *right into the net*, so I got my first Wallace, and this is the bird now in the Zoo. It was so inextricably entangled, the whole net had to be taken down with the bird in it. As the boy was coming down with it its screams brought all the other birds around, and I am sure if I had then had all the other nets up my scoop would have been a large one. This habit of coming to a companion in distress is not, of course, peculiar to Paradise Birds, but I have many times seen plume hunters in the Aru Islands and in New Guinea take advantage of this and *deliberately* wound a bird and keep it tied up out of sight under a dancing tree for its cries to attract the other birds, so that they could more easily shoot them.

After catching the first bird there was great excitement in the village. Men, women, and children crowded around my house *en masse*, possibly thinking it would be on public view. Needless to say, they were

sadly disappointed. Advice was freely given as to what I should, and should not, feed it on, and this from people who had not only never seen the bird before, but did not even know such a bird inhabited their island. Many were now anxious to try their hands at bird catching, tempted by the reward I had given to the man who showed me the place, and all sorts of ruses had to be adopted to avoid giving the locality away. Others were curious to know how I, a foreigner, knew these birds lived there. As one man said: "We don't know the birds in your country."

This last week of my stay was unfortunately very wet, and during rain or dull weather no birds came out at all. This further convinces me that I had found a real dancing place; but with one ray of sunshine, birds suddenly appeared from somewhere, and at such times during the remainder of the week, we managed to secure four more birds, three males and one female. I was at first very doubtful if such restless birds would take kindly to cage life, especially in comparatively small travelling cages. All fears, however, were soon set at rest by the birds feeding *at once*, and showing no signs of fear *whatever*. They greedily snatched green grasshoppers from my fingers the first day.

When the boat came to fetch me away the weather was so bad that it was quite impossible for the ship's launch to get through the raging surf, although several attempts were made to do so. A native in his catamaran managed to reach the ship, and by him the captain sent me a note to say that if I could manage to get over the mountains to the other side of the peninsular, he would pick me up there. In spite of the pouring rain, I had instantly to hunt up men to carry all my kit over; no light task, and after endless trouble I got some forty carriers, the bulk of them being anything but volunteers. Cases had to be hurriedly broken open and the contents distributed almost anyhow among them, for so steep are the mountains that not even moderately bulky packages can be carried over. The journey took about four hours in almost continuous rain, and water poured down the steep trail like a waterfall. Two of my birds had been caged less than twenty-four hours, and yet they came through it all in perfect condition. That is the great charm about Wallace's Birds, their tameness and good sense makes them ideal birds to move about. When crossing the range

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D. Seth-Smith

Red-breasted Geese (*Branta ruficollis*).

To face p. 65.]

several times heard others calling in the jungle, and at these places noticed an abundance of wild nutmeg trees growing, which inclines me to think that they may feed on this fruit. In New Guinea I have found the Raggianas and Rifle Birds very fond of it. They swallow the nut whole with the lacelike mace encircling it. After the latter is digested the nut is ejected.

Without counting any Bower Birds, this makes twenty-two species of Paradise Birds that have been in captivity over here ; while no other country has yet had even half that number. I have brought twenty species, and seventeen of them for the first time. I have counted in this number only two species of Manucodes, although I am sure we have had more.

RED-BREASTED GEESE BREEDING IN CAPTIVITY

By the DUCHESS OF BEDFORD

Nine of these birds were obtained, some from Mr. Carl Hagenbeck and some from Mr. Falzfield, between 1911 and 1913. They showed no signs of nesting until July of 1926. One of the birds was then missed, and on search being made was found sitting on six eggs. The eggs were lifted and put under a hen. Four goslings were hatched, one of which died after three days. Another nest of six eggs was found, all of which had been destroyed. This probably accounted for a single egg which was found a week later and proved fertile. The eggs were removed from the hen and put in an incubator to hatch out to avoid the danger of the hen killing the young birds by trampling upon them. The period of incubation was twenty-five days. The young birds were put in a foster-mother on a grass lawn. They were a dull grey brown all over when in down, except the face, which was dark brown. They did well, feeding on grass only. In six weeks' time they showed a good deal of colour on their feathers, and by the end of September were in full plumage as regards colour and markings.

At this day, 17th January, all survive.

WOBURN ABBEY.

[The Red-breasted Goose, *Branta ruficollis* (Pallas), is an inhabitant of Siberia, breeding on the banks of the Yenesei, where nests were found

by Mr. H. L. Popham at the foot of cliffs, the clutches consisting of from seven to nine creamy white eggs. It migrates south in winter to the southern shores of the Caspian and even as far as the northern portions of Africa. It occasionally wanders to the British Isles, to Sweden, Denmark, Northern Germany, Holland, and France. That it was known to the ancient Egyptians is proved by the picture known as "The Geese of Medum", for a photograph of which I am indebted to my friend, Mr. F. L. Berney, who when sending it wrote as follows: "The photo is of what is said to be the oldest picture in the world. The age is early fourth dynasty, say, 3,000 years B.C. Found in a chamber tomb at Medum on the Nile, where it formed part of the wall decoration. The birds depicted are, first and last, *Anser cinereus*, first pair *Anser albifrons*, second pair *Branta ruficollis*. It is pleasant to think that in those far-off times there must have been ornithologists and painters of birds, Thorburns and Keulemans. Wealthy Egyptians of those days had the walls of their tombs decorated with scenes such as had interested them during life, their work, their hobbies, pastimes, and so on; and the owner of the tomb was evidently one who took pleasure in watching the rare and interesting birds he kept in captivity. When one realizes that the painting is nearly 5,000 years old it has to be acknowledged that it is a wonderful piece of work." The Red-breasted Goose is very rare in living collections at the present day, and a female received by the Zoological Society in 1858 appears to have been the only example that that institution has possessed. The breeding of the species at Woburn is an event of very great interest.—ED.]

NOTES FROM INVERESK LODGE AVIARIES

By JOHN D. BRUNTON

The breeding season of 1926 was like all others, in that it did not come up to expectations. Still some interesting results were obtained; and the following notes may be of some interest to members of the Avicultural Society.

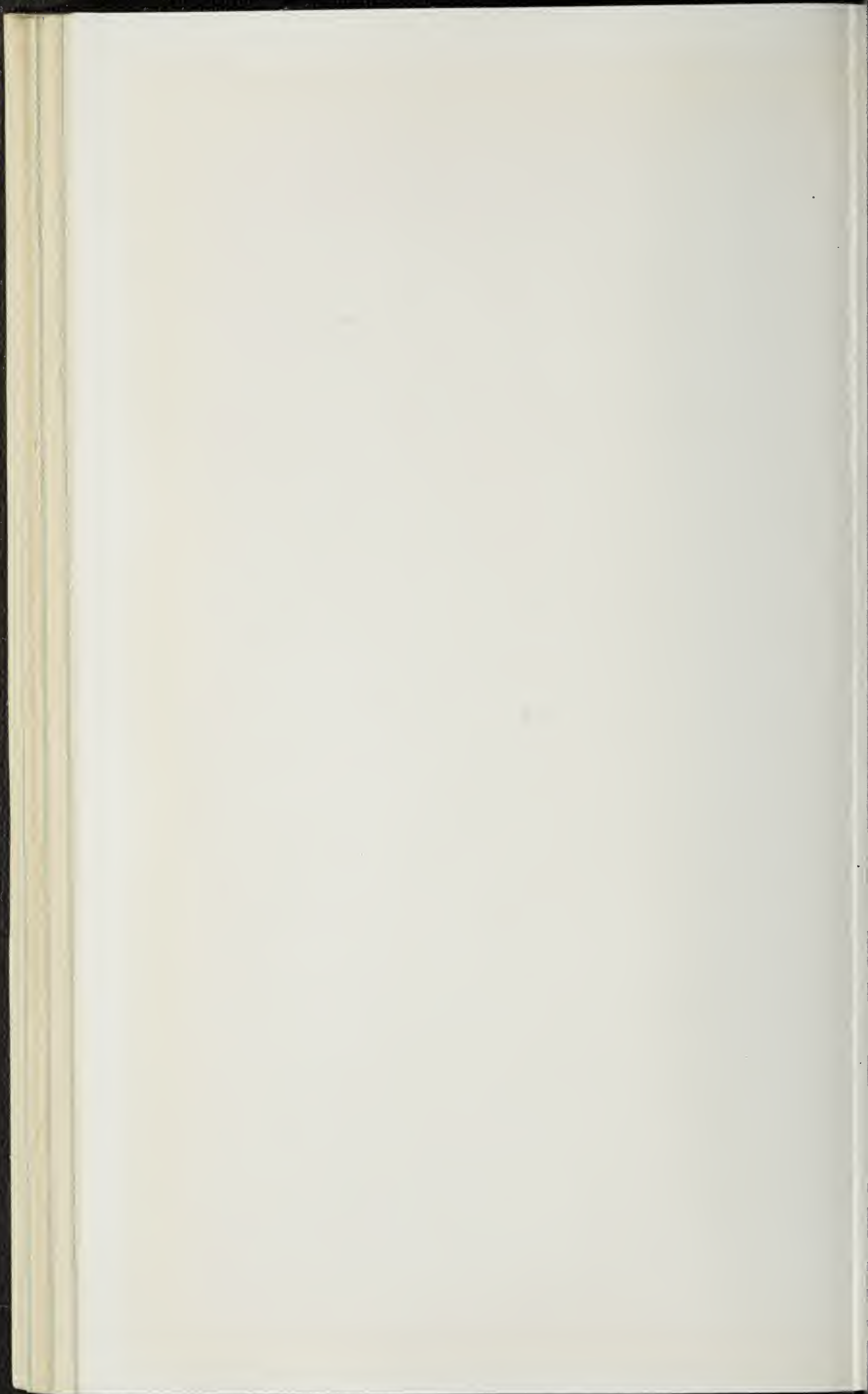
First may be mentioned White Peafowl. These do quite well here, and each season since their arrival has seen some young hatched, the

“THE GEESE OF MEDIUM.”

“The oldest painting in the World—The age is early IV Dyn., say 3,000 years B.C. Found in a chamber tomb at Medium on the Nile, where it formed part of the wall decorations.



The birds depicted are, from left to right: first and last feeding, *Anser cinereus* (Meyer); first pair, *Anser albifrons* (Scopoli); second pair, *Branta ruficollis* (Pallas).”



total this year being seven. Some of these have been disposed of. A sufficient breeding stock has been retained, but an infusion of new blood would be an advantage. These birds roost out summer and winter on large trees in the park. It is an interesting fact that, about a year ago the birds abandoned their favourite perch, and took to an adjoining tree. About a fortnight later the original tree, which had shown signs of decay about the roots, broke off short and fell to the ground. It looks as though the birds had some feeling that all was not well with it.

Red Junglefowl, of which I received a trio from Rangoon a few years ago, do very well here, and a considerable number of young has been hatched. They are "as hard as nails", and give no trouble. The hens hatch their own eggs and are excellent mothers. This year they got little encouragement and only eight were reared, though a large number of eggs was laid.

Pheasants have been rather disappointing, only five Golden, ten Silver, and six Amherst having been reared. Reeves were a blank, one adverse factor having been an inveterate egg-eating hen! By accident two Amherst-Golden hybrids have also been obtained. I am still hoping to get, at some future time, eggs from a nice pair of Monaul Pheasants, though these, I understand, are likely to be few and far between. The only other species represented here at present is the Crestless Fireback, of which two odd hens are in residence.

Ducks, which comprise Japanese Teal, Pintail, White-faced Whistling Tree Ducks, an odd Widgeon, Mandarin, Carolina, and Yellow Bills, have not done much, there being only four young each from the two last named. The Yellow Bills have had a few young in previous seasons.

A very interesting acquisition to the collection arrived from Wellington, New Zealand, recently, in the shape of a pair of "Pukekos" or "Swamp Hens". These are Blue Rails native to that country and with their glossy black-green backs and indigo blue breasts they are very attractive looking birds. It should be possible, given more natural surroundings, to breed these birds, but as they are confined meantime in an ordinary Pheasant run there is little prospect of doing so. I am rather loth to turn them into the Waders' aviary, where they would find water and a considerable amount of rough cover, as I fear they would

make short work of the contents of any small Finch nests that might be built in the bushes. These birds appear quite healthy, but do not relish frosty weather much.

As might be expected, there are no results to report from Waders, though some excitement was occasioned in the spring when a Knot was seen squatting in a hollow beneath a grass tuft. It *may* have been broody, but no further developments took place. Each year some of these birds assume the full breeding plumage.

The small Finch fry flying in the Waders' aviary never seem to have much luck with their numerous nests. Two or three broods of Zebra Finches were, however, hatched in boxes, and two or three young Waxbills also appeared. Most, if not all, of these seem to have died out.

While the above results may seem meagre, some very interesting hybrids have been hatched in addition to the Pheasants already mentioned. From a Vulturine Guinea Fowl cock and a Common Guinea Fowl hen fifteen eggs were obtained and hatched by various foster-mothers. The hen, it may be mentioned, is itself a curiosity, it being a pale lavender-coloured "freak" bred here from ordinary coloured stock. The young "favour" the male in their first plumage. The Vulturine in common with his progeny, seemed hardly hardy enough for this climate, and he unfortunately succumbed after a frosty night.

Another interesting cross was obtained from cock Red Junglefowl and a common hen Pheasant, which for want of other accommodation was turned down with them. There was a considerable overplus of young cocks in the pen at the time, which fact no doubt favoured the fertilization of the Pheasant's eggs. A last year's bird of this cross (unfortunately a hen) is now a very robust bird. It is even larger than its mother, which it generally resembles, though the brown body colour is considerably richer or redder. The head and neck are black. There are two young this year from this mating, one of which I am in hopes may turn out to be a cock. Has anyone heard of this cross before?

A most interesting hybrid, which I believe is undoubtedly the first of its kind, was obtained in the Waders' aviary. Amongst the miscellaneous Finch oddments was a large Yellow and Black Grosbeak, said to be from South America. It was described as a "Giant Yellow-bellied Grosbeak". There was also an odd green Cardinal hen which

had lost its mate. This bird was seen to be carrying food, but for a time it was only observed to be assisting a hen Blackbird, attending to its Grey-winged Ouzel hybrid progeny. One day, however, the Cardinal was seen, after visiting the Blackbird's nest, to pop into an adjoining compartment. From its actions it appeared to be feeding there also, and when the Grosbeak was seen to lend a helping hand from time to time it was surmised that something out of the common was happening. It may be explained that the nests were situated right on top of the wall in the shelter, much too high up for any inspection.) In due course one young hybrid Blackbird flew from the first nest, and some days after a young bird from the second nest was found on the floor in the shelter. It had apparently made rather a premature departure from its home, as it was little more than half-fledged and quite unable to fly. It was well looked after by its parents, however, the cock bird particularly, which kept continually packing it with food. It soon acquired sufficient strength to clamber about the bushes and finally to fly strongly about the aviary, where it quickly developed into a strong, bold bird. It considerably resembled a Cardinal in dull plumage, but had a larger beak, intermediate in size between those of its parents. It eventually became pretty much the "boss" in the aviary, from which it appears likely that it was a cock. It is very much to be regretted that one has now to speak of this interesting bird in the past tense. It was picked up dead early in January. It may have fallen foul of its male parent, which bird was showing signs of coming into breeding condition, and had been standing up to its precocious offspring more boldly! Most unfortunately the body of the young bird was too much damaged by mice to make the skin worth preserving.

THE BLACK RAIL (*LIMNOCORAX NIGER*)

By G. H. GURNEY, F.E.S.

Amongst the very interesting consignment of African birds recently imported by Messrs. Gamage, Ltd., were several examples of the little Rail (*Limnocolaptes niger*). In their printed list, which was sent to many members of the Avicultural Society, these birds were classed as new to Aviculture. But I brought one back alive from East Africa in 1908, and Monsieur Delacour had two in his aviaries at Clères six years ago ;

this pair he gave to me and I still have one of them in the best of health the other escaped soon after it came here, and was never seen again.

The bird I have at present is a hen, and has laid single eggs on two occasions, making a nest of broken pieces of rush, close to the pool of water in its aviary; needless to say that they did not hatch, though the old bird sat assiduously. But now that several have come over, there should be no difficulty in breeding this charming little species. With me it is quite hardy, which one would expect, and certainly in some parts of Africa it lives at a considerable elevation where the nights are very cold. I have seen it at various places in East Africa; on Lake Naivasha it was abundant, and much less secretive in its habits than the Rails generally are, differing much in this respect from its big cousin, the Green-headed Porphyrio, which was equally common on Naivasha, but seldom observed owing to its skulking habits. The Black Rails ran freely about on the leaves of the blue water-lilies in company with Jacanas. I sometimes caught them in traps baited with cheese, set for small mammals, and once I dislodged one from a large Weaver Bird's nest, built in tall reeds hanging over the water. In the streams and rivers they did not appear to be so common, although Crakes of other species were obtained; probably the Black Rail prefers a wider expanse of water.

I find mine are great vegetable feeders, and probably require considerable amount of green food.

THE ROOK

By VISCOUNTESS GREY OF FALLODON

Reprinted from "English Life" by permission of the Author

"Light thickens, and the crow
Makes wing to the rooky wood."

MACBETH.

A high chalk ridge of downland, once primeval turf, but now much of its surface cultivated, transected by farm tracks set between the wide fields; the margins thick with sandfoin, rest harrow, broomrape, and other furrow weeds. The centaury and yellow agrimony grow with the tall grasses; here and there high bushes of sloe take

the line of a hedge. Then a large wood of beech trees, laid across the ridge, like a great mantle thrown over one shoulder of the landscape, and a chalk-pit set at its foot; which, facing west, at sundown becomes filled with rose colour. This is the Rooky wood, which gives shelter to a large community; and it was from this wood Rookster came to us.

One of my children who, when very young, had the pretty idea that it was customary on one's own birthday to give presents to others, brought him to me as a gift. With the candour of childhood that renders it unable to keep a secret, he had spoken daily of this surprise for some time before the right date fell. "It isn't out of a shop, you know," he would say, a silken head nodding wisely: "It is nothing that you can buy." Then, with a sudden *largesse* of confidence, with both hands tightly squeezed the better to keep back a part, at least, of the previous news: "It is something that God is making nicer and nicer for you, every day!" This meant that Reuben, the garden boy, had said that the rook was as yet too young to be taken; and so another week would have to be passed in this struggle for silence.

Then one morning the day arrived. I saw them coming from far off across the open valley, threading their way by the narrow plank bridges set over the runlets and glittering streams that feed the water meadows, brilliant with marsh marigold. There was the tall figure of the nursery maid, the small figure in a blue overall, Reuben, stout in corduroy, with a ladder, and—when they were nearer—the young Rook.

He was easy enough to rear. He would take large pieces of milk-op, thin shreds of meat, soaked biscuit, anything; and soon he was sitting comfortably enough on the edge of his wastepaper basket, that was weighted against overturning by containing a large flint.

He was crafty from the first. He would be intrigued by the clefts between the closed fingers of my hand, and he would prise them apart with an investigating bill, and an air of great secrecy. Anything slightly hidden or an outline suggesting concealment would hold his attention at once. As he grew older this led to trouble, for he was more destructive than a Jackdaw, and, if not cleverer, more alert than a Raven. "To board," this was his motto; and he remained as thin as a bone, because anything that he liked eating, he immediately hid. He would take the smallest portion, and then in a series of long elastic leaps or a sidling

walk, he would be off with the remainder. So his whole life was one of long-drawn-out starvation, enhanced by delicious concealments, and crafty storings in garden cupboards. If no further food had been forthcoming, would he, I wonder, have remembered where he had hidden those bones? The pleasantest part of his character was his sense of companionship. This led him not only to occupy himself ceaselessly with our feet, shoe leather presenting pleasant beak-work, but also to accompany us on a walk. He was never shut into a cage. His cage was what all cages should be, a place of rest and security wherein he could sleep, or find food, or drink if he wanted. So he would suddenly appear in the air beside us, as we started on a walk; he would fly about eight feet above the ground, alighting ahead of us. There he would sit till we reached him, then he would take another flight, and so on, about twenty or thirty feet away. He always flew on our left. But after a certain distance the territory instinct arrested him—he did not care to go far from the house. This is curious when one considers how far afield are the flights of the wild Rooks.

He was mischievous, and more inquisitive than Fatima. He never outgrew the interest that carpets aroused. What was underneath was what intrigued him. The edge of a rug which could be easily lifted was a matter for peering investigation. He took great trouble to undo one's shoelaces, he would even unlace a shoe. Thus he passed his life in ceaseless investigation, and when he died it was from eating what even his powerful gizzard found indigestible. He had stolen a pin-cushion from one of the bedrooms, and, taking it to pieces, had made too light of the pins.

I would never have another Rook; not from sentiment, except so far as sentiment means right feeling, but because Rooks are most beautiful in their setting of wild life, in their own environment. Here on Salisbury Plain, they are seen to great advantage; large numbers out on the open Down, gleaming in the winter sun; or some few, near at hand and looking unexpectedly large and noble, alighting on the lichen-grown railings that surround a lonely dew pond, the summer sunlight waking bronze or purple lights in their sombre plumes. Once again in November, printing the sunset sky with their dark forms, as they cross the valley, passing overhead in steady battalions; one of

to leaders, then the full company, and a straggling few bringing up the rear. On summer nights, about ten o'clock, in the warm twilight, they make their sonorous tumult in the trees ; a sound that has something in it of the volume of the sea.

In March the Rooks make their joy-flights. It is as much a sign of spring as the scent of moss in the copses, or the sight of snowdrops peering through last year's leaves ; and it accords well with the song of the Missel-thrush that has so much weather in it ; for the Rooks let themselves be blown about the sky.

Every year one should save the young of the Missel-thrushes from the Jackdaws, in recognition of their song in February and March. Mr. H. Hudson is right when he tells us that our attitude towards creatures should be expressed in the injunction : " Pet none, persecute none." Yet how far easier it is not to persecute than not to pet ! Every spring, as it comes round, I am tempted afresh to bring birds up by hand. I get such pleasure from this. I love their dependence on me ; I love, through this, to learn their ways. I had a hand-reared Wren this spring, a rare achievement. It would play about the rose bushes gathering aphids, and return to one's hand as to a chosen abode. The delicacy of its ways cannot be described, nor the beauty of its voice. Shakespeare says somewhere, as a term of endearment : " Here comes the youngest of nine Wrens " ! He knew what it looked like. If I wore a silken dress it bathed on its surface ; it appeared to be enchanted by the soft touch of the material. It would go into a perfect folly of movement, making all the gestures of throwing water-drops over its back, just as a bird does when it bathes among wet leaves. I should never have known wild birds have this custom had I not once brought up a Blue Tit by hand. This Tit would take its bath in the watercress on the breakfast table. One day I was sitting in the aviary. That pest of quiet summer hours arrived, a face fly ; the fly that will occupy itself pertinaciously with one's face, and goes from eye to eye, as if undecided into which to plunge. The Wren was playing around me, so I stooped and took it in my hand ; then I held my Wren up to my face, and caught the fly with it. It was most neatly done ; and—as one is usually the helpless victim of such a fly—extraordinarily satisfactory.

I brought up a Wood-pigeon last year ; this year my care is a young

Rock Peplar. It is of the species called the Black-tailed Parrakeet two others with it were hatched in the aviary here. I took it from the nest when it was still in down, which was like eiderdown in quality with just a hint of lovely fruit-coloured feathers showing from the quills. I feed it from my lips, with bitten-up brown bread and raspberries; with banana, and gooseberry pulp; sometimes biscuits moistened by a bite of a peach, varying this with lettuce. It connects the sight of my face now with nourishment, though it is still uncertain what exactly is the point of happy contact, for it sometimes makes a hopeful dive into my ear. It holds its head high, swaying on a rope neck, making the while a rasping noise with its brilliant persimmon-tinted beak held open.

It shall fly free in the garden when it is fully grown. None of our birds have their wings cut. Those small African Finches, called Cordon Bleus, fly free among the trees, returning to eat and bathe in their cage on the window sill. Their blue feathers look exquisite against the green of an ilex tree.

BIRDS IN NORTH-WESTERN AUSTRALIA

A very interesting account of an interview with a bird and animal dealer, Mr. Foglia, of Adelaide, appeared in the *Adelaide Register* of 20th November last.

Mr. Foglia had just returned from a collecting trip to the Kimberley district, in the far north of Western Australia, where bird life appears to be exceedingly abundant, but where occasional seasons of drought result in great mortality:—

“As far as bird life is concerned in those parts, he said, an abundance of feed and water had resulted in remarkable increases in the bird population, including the larger types, such as Ibis, Native Companions, Turkeys, Geese, and Ducks; and the area could only be described as ‘Nature’s sanctuary’. Untouched by the ravages of the white man for the greater part of the year, the Kimberleys especially had become their natural feeding ground. Mr. Foglia said he had been in other parts of Australia, but he had never had any idea of the extent of bird life existent there. It was amazing, and he could not understand, after a

visit to those parts, why people agitated for the protection of Australian natural animal and bird life. A sojourn in the far north of Australia convinced one that there was little need for a policy of protection along those lines. Of course, those people engaged in the pursuit of birds were protectionists in themselves. To take 100,000 birds away was a mere drop in the ocean ; but there was now the danger of an epidemic wiping the birds out over the coming wet season and during the succeeding months. The birds multiplied to such an extent during a succession of good seasons that when subsequently feed became short, nature in her own way counter-acted this influence through disease, leaving the fittest to act as the rejuvenators of the species. There was thus always sufficient feed to satisfy the wants of the bird community. Disease was manifesting itself at the moment, for all the birds caught were thin and miserable looking ; but, when fed well during three weeks of captivity had recovered. He felt sure that a trip next year would be comparatively futile. His investigations showed him that these diseases occurred about every six or seven years."

AUSTRALIAN PARRAKEETS

By the MARQUESS OF TAVISTOCK and J. DELACOUR

(Continued from p. 51)

II. THE PLATYCERCINÆ

Besides certain anatomical distinctions the Platycercinæ are recognizable by their short beaks which may be light or dark grey, but never red, their longish legs and long broad tails. The genus is peculiar to Australia and Tasmania.

THE ROSELLA PARRAKEET (*Platycercus eximius*), from South-East and South-West Australia is the best known member of its genus, and one of the most beautiful. Its cheeks are white, its head, neck, and breast and the feathers under the tail are red ; its belly is yellow, and the mantle greenish yellow, every feather having a black centre ; wings blue and black ; rump and back green ; tail blue and green ; beak whitish ; feet grey ; eyes brown. It is the same size as the Ring-necked Parrakeet. The sexes are very much alike, but the male is a trifle bigger and brighter coloured, with a thicker head and larger beak ;

the most reliable distinction lies in the colouring of the little feather at the back of the eye ; they are brownish green in the normal adult female, while in the adult male they are invariably red. Most females have their flights spotted with white, and there is a green bar from the back of the neck to the centre of the head ; these two latter features are rarely found among adult males, though immature specimens may display them.

The young on leaving the nest resemble their parents, but the red covers a smaller area, and all the colours are paler and the black markings less distinct. The full colouring appears gradually, and is complete after the first moult. If kept in a large aviary and well cared for *Rosella* may breed when a year old, but more often do not nest until the following season. This applies also to the whole family of *Platycercus* and *Barnardii*. *Rosellas*, like all the family, are quarrelsome when paired and in good condition, single and weakly birds are less spiteful. They specially dislike their own and closely allied kinds, but are dangerous with all weaker *Parrakeets* ; they will not usually molest small *Passerine* birds as long as these keep out of the way, unless the aviary is overcrowded. *Rosellas* should be fed on a mixture of two parts of Canary to one of hemp, one of millet, one of sunflower seed, and one of oats together with monkey nuts ; they require green food and fruit preferring apples, cherries, and gooseberries. They do not care for grapes or oranges, which are liked by the *Palæornis*. Groundsel, chickweed, sprouting oats, flowering grass, and lettuce are all acceptable and they love a fresh branch of some non-poisonous tree, of which they will eat the buds and nibble the bark.

Rosellas are fond of bathing and should never be without water. They are perfectly hardy once they have moulted, and can be wintered out of doors if they have protection from rain and wind. Most *Platycerci* are stupid about using their shelter and often will not enter it, and prefer to freeze outside : they must therefore be accustomed to their shelter by being shut into it for some days at the start by being fed there. It is also wise to shut them up every night. Young birds of the year need more protection than adults.

Platycerci do well in a movable aviary such as I have described in my general notes on Parrots. Failing this, they should if possible be

placed in a fixed aviary, with a cement floor. They are long-lived if given room to use their wings even in a small aviary, but it is cruel to put them up in a cage, and under these conditions few survive longer than two or three years. A large aviary is needed if they are to breed satisfactorily, for if confined in a small space they often rear only sickly or crippled young ones. Hollow logs or boxes make good nests for them, but there should be at least two for each pair, as the hen often lays a second time before the first family is fledged, the male parent taking entire charge of the latter. If the hen bird has to wait until the first brood have flown she may pluck them in the nest, or she may herself start moulting, in which case all hope of a second brood is lost. There is no fear that the father will neglect his youngsters. The young must be separated from the old birds as soon as the male begins to grow impatient with them and drives them off. The usual clutch is from four to six eggs.

Rosellas cross freely with allied species, and the hybrids are generally fertile.

THE YELLOW-MANTLED PARRAKEET (*P. splendidus*), described by Gould as a distinct species, is really only a local variety of Rosella, and is even prettier and more brilliantly coloured. The edges of the feathers of its mantle are golden yellow, with little or no green tinge. It is rarely imported, and I have only seen four cocks and one hen alive.

A cock *Platycercus* whose hen is shut up can be safely given his freedom and will not go farther than half a mile from her aviary. He may bite off some fruit buds in spring and nibble apples in the autumn, but he will not do much mischief, and it is easy to shut him up for a few weeks when necessary.

The *Platycerci* will breed at liberty, but pairs are sometimes inclined to wander and nothing smaller than a cock Rosella is safe from the attacks of the Tawny Owl, who is the worst enemy of exotic birds which have been set at liberty, and is the cause of many mishaps. If it is desired to set a pair at liberty it is wise to wait until they have bred once in an aviary. The cock should then be let out on a calm evening, somewhere where he can see and hear the hen and where he will not be afraid to come down and visit her; his food should be placed on the top of the aviary. Some days later the hen can be released, also in the

evening, taking particular care that she sees her mate as soon as she is let out. Nesting places must be put up and Starlings, which take possession of these, must be shot, for, strange to say, these birds can overcome Parrakeets, even as large as Pennants.

All Platycerci have a great fondness for exploring chimneys and must be prevented, as far as possible, from amusing themselves in this way. The worst danger is that a bird may come out in an uninhabited room where it may die of hunger before it is discovered. A movable wire netting top to the chimneys will not interfere with the sweeping, and prevents Parrakeets from entering, which they will do at all times of the year. Young birds reared at liberty must be caught up as soon as they can feed themselves, or they become too independent, take long distance flights and annoy the neighbours by robbing their orchards.

It must not be forgotten that a pair of Platycerci are far more spiteful at liberty than a cock whose hen is shut up, and more disposed to drive away all their fellows. If a Parrakeet at liberty happens to die if its mate is not replaced, it must be caught up at once, or it will stray and be lost.

PENNANT'S PARRAKEET (*P. elegans*) is decidedly larger than the Rosella; it is a native of East and South Australia. Its colour is a fine carmine red, with pale blue cheeks, wings, and tail; the flight feathers and rectrices are in part blackish green. The feathers in the mantle have black centres. The sexes are alike, but the hen is smaller and her head and beak are slighter. This species ranges over a wide territory, and there are local varieties which vary in size and the amount of black in their plumage. The beak is grey and white, iris brown and feet greyish black. When the young leave the nest they are deep green, with blue cheeks, have a few red feathers on the throat, and some blue ones on the wings and tail. The red feathers appear gradually through the green ones during autumn and winter, and the adult plumage is completed after the first moult. Young birds have been known to leave the nest wearing the adult red plumage, but this is exceptional.

Pennants are the least quarrelsome of the large Platycerci, but this does not mean that they are amiable with other birds; they are merely the mildest of a very quarrelsome family. They should be treated in the same way as Rosellas. A cock bird whose hen is shut up

the aviary does well loose, has nothing to fear from Owls, and produces a very fine effect in a garden. A pair at liberty very often disappoint their owner by staying several months and disappearing when they appear on the point of nesting. In order to succeed with a pair it is necessary to have a very steady cock, for among the Platycerci is the cock bird who decides the movements of the pair.

THE ADELAIDE PARRAKEET (*P. adalaidæ*), from South and Central Australia, is classed by certain authorities as a variety of Pennant. In my opinion it may very well be a hybrid between *P. elegans* and *flaveolus*, which has become fixed and now comes true.

The Adelaide differs from the Pennant by the paler red of its plumage, which has a yellowish tinge, and the mantle has pale orange edges. Individuals vary much in colour; some are very like Pennants, but the majority look very different and wear a mixture of colours which makes them appear at once beautiful and remarkable. The sexes are alike, the head and beak offering the only distinction. Young birds are like Pennants, but their green is more golden in shade. They require the same treatment as the preceding species.

THE YELLOW-RUMPED PARRAKEET (*P. flaveolus*) comes from the same locality, but is very rare in confinement. It may be described as a small Pennant, whose red has everywhere been replaced by pale yellow tinged with olive. The sexes are much alike in colour, but the young seem to be much greener than the adults. A male which I possessed was exceedingly quarrelsome. The same treatment as the above.

THE YELLOW-BELLIED PARRAKEET (*P. flaviventris*), from Tasmania, only differs from the last named by having the back, wings, and rump dark green. Both sexes are alike in colour, but the hen may readily be known by her weaker beak and small head. The young are distinguishable by their green breasts and more uniformly green backs.

This species is the most delicate of the Platycerci. Although easy to feed and not much affected by cold, it is very subject to septicæmia, tuberculosis, and other diseases. It does best in a movable aviary with plenty of grass, and the site must be changed annually. It must not be too much exposed to the sun in summer, but enjoys it at other times of the year; besides seed and fruit, it should have some mealworms. It resembles the Rosella in disposition.

THE MEALY ROSELLA (*P. pallidiceps*) inhabits the east and the interior of Australia ; it has the top of the head and back of the neck pale yellow, the cheeks white, mantle greenish yellow mixed with black, the under tail feathers red, the lower back, rump, and all the under parts are pale blue. The hen is smaller and not as brightly coloured as her mate. The young are less distinctly marked, and there is a shade of green in their plumage.

This species should be treated like the others. Once acclimatized it is as hardy as any other of the family, but when newly imported they are subject to chills and need watching. With ordinary precaution they are not difficult to breed at liberty or in an aviary. A variety (*P. amathusia*) living in North Australia has blue cheeks and a greenish mantle. It is very rarely imported, although very beautiful.

BROWN'S PARRAKEET (*P. venustus*) from North Australia is smaller than the above-named species. Many people consider this the most beautiful of its genus ; its head is black with white cheeks ; under parts lower back, and rump straw coloured, each feather narrowly edged with black ; sub-caudals red ; the feathers of the mantle are black edged with straw colour ; the wings and tail violet blue. The female is smaller and not as brightly coloured as the male. They require the same treatment as the rest of the genus. But, like *Palliceps*, they must be protected from cold on first arrival ; afterwards they may be looked upon as quite hardy. They do not breed as freely as the other *Platycercus* being slow to accustom themselves to our seasons, persistently moulting in May and laying in September. Young birds hatched during autumn and reared in a heated aviary rarely make good specimens ; it is better to exercise patience and only to provide nesting boxes in April and to remove them at the end of August. If this plan be rigorously persevered with the birds will moult earlier every year and finally go to nest in July. Needless to say, it is quite useless to allow Brown's to nest outside in cold weather ; if the hen does not die of egg binding the young will certainly perish soon after they are hatched. For no apparent reason many more hens than cocks are imported. There is a blue-cheeked variety which also has a yellow breast.

THE STANLEY PARRAKEET (*P. icterotis*) is a native of South-West Australia ; it is the smallest of its genus, and the only one in which the

cock and hen have very different colouring. In the cock the cheeks are bright yellow, the rest of the head, the neck, and all the under parts of the body are bright red; the back and rump are green; the tail and wings green and blue. The hen is distinguishable by her dull red head and breast, speckled with green and yellow. Young birds resemble their mother and gradually change their colouring like the other Platycerci. By the middle of January their sex can easily be determined. This species should have the same treatment as the Rosella; it breeds readily in an aviary, but is as spiteful as its larger relatives.

Parrakeets of the genus *Barnardius* may be distinguished from the Platycerci by certain structural details; but to the ordinary amateur they belong to the same class. They are, however, larger and have thicker and shorter beaks; they are usually green.

BARNARD'S PARRAKEET (*B. barnardi*) from South and South-East Australia is a beautiful bluish green, with a red forehead, head and mantle tinged with dark grey; a half-collar round the nape of the neck and lower breast is yellow; the wings and tail are variegated blue and green. A variety exists which has no yellow on the breast. The sexes are alike, though the hen is sometimes duller; the only sure distinction is in the size of the head and beak. When the young leave the nest they are less brightly coloured, and are greener and duller than the adults. Barnard's bear a bad reputation in Australia for dying in quantities on being captured, but those which reach us are usually strong and hardy. They go to nest readily, either in an aviary or at liberty. They should be treated like Rosellas.

BAUER'S AND YELLOW-NAPED PARRAKEETS (*B. zonarius* and *B. minorquatus*), held by Gould to be two species, are only local races of the same bird. It is true that there is a great difference in the size, colouring, and even the voice of the large Yellow-nape, all green with a red forehead, and the little Bauer with a yellow belly and black forehead; but between the two extremes is every possible gradation, so much so that it is impossible to say where one begins or the other ends. Yellow-napes inhabit the south-west and Bauer's the south and interior of Australia.

Bauer's are green, with blue on tail and wings; the belly yellow, half-collar of the same colour and a black head, shading into blue on

the cheeks. Yellow-napes are larger and have the under parts wholly green and the forehead red. The sexes are alike, but the hens have narrower beaks and smaller heads. Both Bauer's and Yellow-nape are perfectly hardy. They should be treated like Rosellas. They are terribly quarrelsome, and have a habit of biting off their adversaries' beaks. Therefore, they must not be allowed their liberty where there are other Parrakeets bold enough to join battle with them.

These Parrakeets can learn to whistle a tune, and even to speak a few words in a hoarse voice, but none of the *Platycerci* nor Barnard's talk really well, nor can they be made real pets, for as soon as they lose their fear of man they usually grow vicious and aggressive and show no real affection for their owner. The natural voice of Yellow-nape though too powerful for indoors, is agreeable in the open, and the whistling calls of a male bird when flying are charming. None of the *Platycerci* actually scream unless wounded or frightened, and as we have already said, their voices are usually musical. A blue and white colour variety of Bauer's Parrakeet has been met with.

THE RED-CAPPED PARRAKEET (*Porphyriocephalus spurius*) occupies an isolated position and differs from the genuine *Platycerci* in its shape, its colour, and its manner of life. It is the same size as a Pennant with a long and pointed tail and a long, narrow, peculiarly shaped beak. Its plumage is unique; the top of its head is red, as are also the belly and sub-caudals; cheeks green, changing to yellow on the sides of the neck; the back is green; wings and tail green and blue; the breast is a pretty shade of slaty purple.

This species is to be found in West Australia. Its range is restricted and its numbers are rapidly decreasing, owing to cultivation and the war waged on it by the owners of orchards. If it be not bred in confinement it will probably soon cease to exist. The sexes are easily recognized, for the hen always has more or less green mixed with the red on her head and her cheeks are much duller. Young birds have entirely green heads, but attain adult plumage after their first moult.

The Red-capped Parrakeet is rare and is troublesome to manage in confinement in this country; if caught when adult, it is very wild and never becomes really tame even after years of aviary life. Young birds taken from the nest are, however, easily tamed. The species needs

at deal of exercise ; if shut up in a cage it quickly becomes too fat and dies of fits ; tame birds, which seem more greedy than timid ones, should, when not breeding or moulting, be given only a teaspoonful of linseed a day with unlimited fruit and green food. This bird must be carefully protected from chills, and although it may, once acclimatized, stand out of doors, it should be shut up for the night. When newly imported it requires a very high temperature and plenty of exercise. At first it must not be placed in an unheated aviary, even in summer, for the first cool night will kill it. The shelter of its aviary must always be heated whenever the weather is chilly or damp and also at night. It is a quarrelsome species, and as it is no more amiable towards its own kind than towards other Parrakeets, it is imprudent to put several together, even when travelling. In spite of its shyness, it is not difficult to persuade it to nest ; it has been bred in England. One of my specimens lived for a long time at liberty.

A Red-capped Parrakeet's aviary must be very strongly built, although some individuals do not bite through ordinary wire netting, and others quickly make themselves a way of escape. Young birds are very delicate, for which reason the nest-box must be hung in a very sheltered position and the shelter well warmed.

THE BLUE BONNET is the name given to two varieties at least ; one has a red belly (*Northiella hæmatogaster*) and the other a yellow belly (*N. xanthorou*). They are peculiar little Parrakeets, which were formerly included among the *Psephoti*, but have now rightly been placed in a separate genus, for they are no more *Psephoti* than *Platycerci* or *Arnardii*. The yellow-vented Blue Bonnet which is the more frequently imported, inhabits South Australia. It is mainly mouse-coloured, with blue cheeks and part of the wings and tail sky blue and the wing-coverts olive yellow ; the middle of the belly is red ; sides straw-coloured ; the lower belly and sub-caudals are yellow. It is about the size of a Rockatiel, and has a long tail.

The red-bellied variety, which is to be found in the south-east of the continent, wears a chestnut red spot on the wings, and its sub-caudals are red ; it is the more brightly coloured of the two. A new sub-species has recently been discovered (*N. narethæ*) further north, which has no red at all on the under parts. Many intermediate specimens are met

with ; the sexes are alike, but the hens are smaller and duller. The young are very much the same as the adults, only slightly less brightly coloured.

Blue Bonnets are very active and playful, they are not suitable for a cage, but would make admirable aviary birds but for the susceptibility to infectious diseases, especially two kinds of septicæmia. They are very spiteful and can kill birds a good deal bigger than themselves. Some aviary keepers have found them amiable with small birds, but not all. Blue Bonnets should be fed like Rosellas; they can stand cold well, even when first imported if they are in good plumage, and they seldom require heat.

In consideration of their liability to disease, it is best to keep them in movable aviaries. A cock whose hen is shut up stays well, and notwithstanding his small size, escapes the attacks of his enemies through his agility, caution, and his power of biting savagely. Pairs, however, rarely succeed well at liberty, and are disposed to wander away.

FOREIGN BIRDS AT THE CRYSTAL PALACE BIRD SHOW

The annual cage-bird show at the Crystal Palace was held from 3rd to 5th February, and was said to beat all previous records far as numbers and value were concerned. The foreign bird section was quite up to the average, and contained a most interesting collection of birds. The Dulwich and Peckham Cage Bird Society and their energetic Show Manager, Mr. A. W. Smith, are to be heartily congratulated on the success of their enterprise.

Amongst the Lories was a splendid pair of Musky Lorikeets which won a 1st prize for Mr. Maxwell, Mr. Frostick taking second with a good pair of Yellow-backed Lories and Mr. Whitley third with a Black-cap.

The class for Lovebirds, *Brotogerys*, etc., contained no less than twenty-two entries, and almost all were in show condition, and as there were only four prizes many excellent birds had to go without a card.

In the class for Conures (excepting Golden and Whitleys) Mr. Whitley showed a fine Patagonian, a rare bird nowadays (first

te), as well as a pair of Red-masked, while Mr. Frostick sent a good hen and a pair of Golden-headed Conures and Mr. Holdstock a pair of Endayas. Two fine pairs of King Parrots were shown by Mr. Whitley and Mr. Jackson (first and third), while Mr. Adams' Pennant came third with a fine pair of Bauer's (Mr. Frostick) fourth.

The "All Other Species" class contained Whitley's Conure, of which I recently had a coloured plate in our Magazine. It received the first prize and a special prize. Mr. Whitley's beautiful Alexandra Parrakeet, which took second prize, was a superb bird, while Lord Tavistock's Norfolk Island Parrakeet, which obtained third prize, was a great rarity. Mr. Frostick sent a fine pair of the Tasmanian Yellow-bellied Parrakeets and Lord Tavistock a fine Yellow-rumped.

The class for Hybrids and abnormally coloured birds was, as usual, a very interesting one. Lord Tavistock sent his exquisite Lutino Blue-fronted Amazon. It is a wonderful bird, of a bright canary-yellow with crimson markings. His hybrid Alexandra Crimson-wing is also a beautiful and most interesting bird. Mr. Whitley's hybrid Glossy Starling is a great curiosity, the male parent being a Burchell's Starling and the female a Chestnut-winged Starling.

There were two Black Cockatoos, one sent by Mr. Whitley (first) and the other by Lord Tavistock (second). Mr. Hawkins sent a Spix, Macaw (third), in a cage that was too small for it.

In the class for "All other species of Parrots", Mr. Whitley took first prize with a pair of the very rare Yellow-headed *Pæocephalus citreicapillus* from Abyssinia. Mr. Maxwell's Yellow-billed Cuckoo, which took second prize, is also a rare species. Third came a very good Hawk-head, and fourth a Brown-headed Parrot, of which species there was a second example in the class. The class for Quails, Pheasants, etc., contained but two entries, both belonging to Mr. Whitley, a pair of Black-headed *Caccabis* and a Ground Dove, of which I do not know the species.

The class for rare Grassfinches, Waxbills, etc., contained two pairs of Water's Spotted Firefinches, the first shown for many years, the first prize going to those shown by Mr. and Mrs. T. R. Berry, and third to those belonging to Mr. C. T. Maxwell. Mr. Timberlake took second prize with a good Violet-eared Waxbill, of which species two others

were shown. There were also some good Rainbow Buntings, a Versicoloured Bunting, Gouldian, and others, but the rarest thing in the class, though perhaps the least conspicuous, was a small Waxbill sent by Mr. Whitley. It belonged to a species described as recently as October last and named *Estrilda xanthophrys* by Mr. W. L. Sclater in the *Bulletin of the British Ornithologists' Club*. It was therefore the rarest bird in the show, though the judge may well be excused for not spotting it.

A very fine Mariqua Sunbird belonging to Mr. Maxwell very rightly took first and special prize in the class for these birds, and the small Tanagers and Sugar-birds. In the Glossy Starling class there were two pairs of Royals, some Superbs, and a very good Purple-head.

The class for Crows, Jays, and Toucans was interesting. Mr. Frostick was lucky in securing first for a Red-bellied Toucan against Mr. Maxwell's very rare and beautiful Green Toucanette, which was awarded second prize. Mr. Whitley's pair of Pileated Jays were beauties, and his very small Aracari was a rarity.

The "Any other small species" class contained some very good birds. Mr. C. T. Maxwell sent a lovely Minivet which obtained first prize, a rare Indian Shrike, shown by Mr. Whitley, coming second and a beautiful Rufous-bellied Niltava (Mr. C. S. Dunstan) third.

In the "Any other larger species" class Mr. Whitley took first with a very beautiful pair of White-breasted Touracous, a species that is a bad liver as a rule, though Mr. Whitley seems to have solved the difficulty of keeping it in excellent condition. Why the second prize should have gone to a Donaldson's, a common species nowadays and easily kept, instead of to the very rare Green-necked Touraco which was also in the class and probably the first ever exhibited, is not clear.

D. S-S.

AVICULTURAL NOTES

The popularity of the blue variety of the Budgerigar in Japan has resulted in the most remarkable rise in value of these birds in Europe. Their value is now about twelve times as much as it was two years ago or less, and several breeders of these very attractive birds have made small fortunes during the past year. And this rise in value is not entirely confined to the blue and other coloured varieties of the

adgerigar, the normally coloured birds being also affected, though to lesser degree. Their value may fluctuate, but at the time of writing these are about four times their normal value.

There is a danger that the high prices offered for these birds may result in valuable stock birds being sent out of the country, and this, I fear, has taken place to a considerable extent, especially in the case of the Cobalt birds.

The Turquoise was comparatively common as a cage-bird in Europe many years ago, and it might with care have been conserved and multiplied instead of being allowed to die out as it did, while unfortunately no trouble was taken to protect it in its limited habitat in South-Eastern Australia. The youths of Sydney were in the habit of proceeding to the country on Saturday afternoons in order to shoot parrakeets for "Parrot-pie", much of the "bag" consisting of Turquoisines!

Sheep farming was also a very potent factor in the diminution of this species, for the grass seed which formed the food of these Parrakeets was not allowed to form when the sheep came and ate the grass.

But the Turquoise is not extinct, as was at one time feared, and it is satisfactory to hear that our member, Mr. Simon Harvey, jun., of Melbourne, has reared a brood of Turquoisines in his aviary.

Mr. Blaauw has for many years kept a wonderful collection of waterfowl at Gooilust, in Holland, and he has bred most of the rare species of Geese and Ducks. One of his latest successes has been with the Blue-winged Goose of Abyssinia (*Cyanochen cyanoptera*), a rare species of which he published an account in our journal in July, 1925.

Mr. Blaauw has also bred the rare Slight-billed Parrakeet (*Enicognathus leptorhynchus*), from Chili, from a pair he brought home in 1911.

That the Californian Quail is not perfectly hardy may have been overlooked by some of our members. While dry cold does not seem to affect it much, it cannot stand damp cold. Mr. Maurice Portal writes me: "I had three pairs which laid some eighty-five eggs in 1925."

I hatched sixty, and brought up the chicks in the Pheasant field. They vanished in October. In 1926 I hatched thirty-seven. Ten were kept in a movable pen in the field. The balance I let go as they liked. Several roosted by the keeper's house in a yew-tree, and about ten in some birch scrub in the wood, and a few in an old Scotch fir. All were dead after a thick white fog which froze about 1 a.m., and ended in 9 degrees of hoar-frost. All were fat with full crop and gizzards full of grit. This accounts for my friends telling me they migrated ! ” D. S-S.

CORRESPONDENCE

THE COMMON QUAIL

SIR,—I purchased a pair of Egyptian (presumably *Common*) Quails the other day. Though I have kept Californian Quails for years on ordinary seed and corn, I would be much obliged if you could let me know something about the common species, which I have never had before, though I have tried to get them for ages. (1) What is the sexual difference ? (2) Correct feeding ? (3) Are they likely to breed in an outdoor “ Parrakeet ” Aviary, with only a sandy ground, and about 12 feet by 8 feet ? (4) Anything further you can tell me.

THOS. L. S. DOOLY

[(1) When adult the sexes of the Common Quail may be distinguished by the two dark brown bands which descend from the ear-coverts and terminate in a blackish patch on the throat of the male. The female is slightly the larger bird.

(2) Canary and millet seed or almost any small grain and green food. They also readily devour insects.

(3) To breed Quails successfully a fairly large outdoor aviary in which grass is allowed to grow long is essential. Although they may lay eggs, they will never incubate them unless the nest is in a very secluded spot, such as beneath a tuft of long grass, approached by a tunnel through the grass.

(4) The young are not difficult to rear providing plenty of live and cocoons can be obtained, but they are not likely to thrive on purely artificial food.

The Common Quail is the wildest and least attractive of any of the genus *Coturnix*.—ED.]

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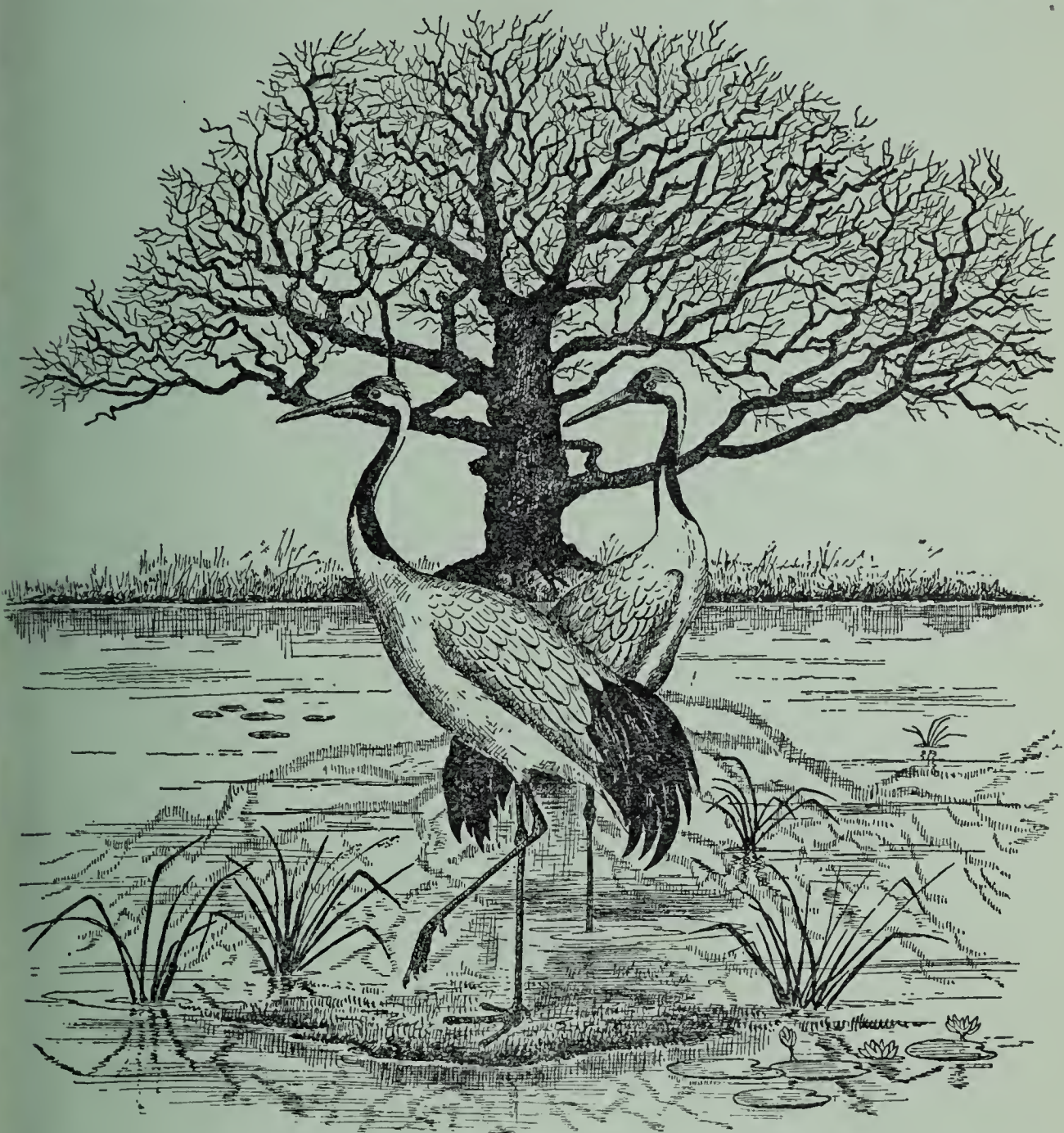
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Thick-billed Parrot.
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Length, 17 inches.

THE AVICULTURAL MAGAZINE

BEING THE JOURNAL OF
THE AVICULTURAL SOCIETY
FOR THE STUDY OF
FOREIGN & BRITISH BIRDS
IN FREEDOM & CAPTIVITY

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APRIL, 1927.

THE THICK-BILLED PARROT (*RHYNCHOPSITTA PACHYRHYNCHA*)

By KARL PLATH (Chicago)

The Thick-billed Parrot is the monotype of the genus *Rhynchopsitta* and is placed between the genera *Ara* and *Conuropsis* in Ridgeway's classification of American Psittacidæ. It is a medium-sized parrot about the size of the Yellow-headed Amazon and is slightly reminiscent of the Military Macaw in appearance. Its bill is large and heavy and black in colour. The habitat of this fine Parrot is in the pine belt of the mountains of northern and middle Mexico and it occasionally wanders northward into Southern Arizona.

Mr. Lee S. Crandall, curator of birds in the New York Zoological Park, says he knows of no record of its ever having been kept in captivity and diligent search on my part fails to reveal this fact.

In colour it is a deep green with none of the dusky colour edging the feathers. The cheeks are brighter green and the under parts lighter green and slightly duller. The forehead and a broad stripe over each eye is deep carmine and the bend of the wing and lower part of thigh is bright geranium red. The under surface of wing and tail is slate colour and the under primary coverts are clear yellow. The body feathers have a highly polished effect.

Our bird, which we call "Mickey", is very tame and affectionate especially with our young son, but it does not seem to take to the ladies. It delights in snuggling around one's neck and rubbing its cheek against one's ear. It has a decidedly unpleasant voice which, if my memory serves me right, is similar to that of the Rose-breasted Cockatoo.

THE CHESTNUT-HEADED BUARREMON (*BUARREMON BRUNNCINUCHA*)

By G. H. GURNEY

I have lately received a pair of these birds, which I believe are new to Aviculture. The genus *Buarremon* is composed of a group of Tanagerine Finches, closely allied to the Saltators and to the Magpie Tanager (*Cissopsis*). They range over the whole of Central America, from Mexico to Peru, and are especially common in the Andean area. My birds, which arrived in fairly good condition, have now settled down well, they are at present in a large flight cage, but no doubt later on they will be put into an aviary. They are rather larger than a Scarlet Tanager, but much more sturdily built, the wings are short, and very square looking in flight, and the bill is considerably longer and more elongated than in the majority of the Tanagridæ. There is a slight difference in colour between the two birds, one being somewhat lighter than the other, and the black spots on the front of the head are not so pronounced, this is presumably the hen. Above and on the lower parts of the breast they are a dull yellowish green colour, wings and tail brown, the crown of the head is a rich chestnut red; sides of the head and forehead jet black, with three white longish spots, the throat down to the pectoral collar is snowy white, the collar black, upper parts of the breast grey; this description of their colouring will show that they are very showy birds, the black and white of the throat and head and the rich red brown top making them very conspicuous. My pair are very tame, and extremely active and inquisitive, always on the move, jerking their heads continually and flicking their rather short tails in quite a Shrike-like way; they are so square looking and thickset, that they remind one almost of a Dipper, and as the

appear to be somewhat terrestrial, this adds to the similarity. So far we have not heard them utter any note. They are doing well on ordinary insectivorous mixture, are very fond of mealworms, and eat a good deal of fruit.

THE CLARINO OR CLARINET BIRD (*MYIEDESTES UNICOLOR*)

By CAPTAIN H. S. STOKES

Mr. Chapman has lately received a fair quantity of these from Mexico. It is also known as the Grey Solitaire, and has been exhibited before at the Zoo, while an allied species, Townsend's Solitaire (*M. townsendi*), was described by the late Mr. Astley, and well illustrated in this journal in 1919 (New Series, Vol. VII, p. 319). According to Dr. Hopkinson's book, it was bred in Moscow in 1912.

It is about the size of a Scarlet Tanager, of dark slaty blue, with a ring of white feathers round the eye.

It sings very attractively and continuously. Two or three in a room remind me of a chime of little silver bells, or of those Japanese glass tubes which clash and tinkle in the breeze. (I am also bound to admit that one of my birdy friends described the song as like the scraping of a wheelbarrow wheel in need of oiling !)

The Clarino seems to be largely frugivorous, mine preferring soaked currants and chopped apple to anything else.

The hens sing also, and have a "feminine look" and a narrower head than the cocks, and care should be taken to see they get their fair share of food when the sexes are put together as the cocks are very spiteful towards them.

1926 IN THE BOYERS HOUSE AVIARIES

By W. SHORE-BAILY

I am venturing to send you these few notes on the happenings in my aviaries during the last season, as they may be of interest to our readers. In a Society with a membership of something like 1000, it is astonishing how few write anything about their birds.

Occasionally if there is a medal in view we get an account of some success, but how often do we hear about the failures. I venture to think that in many cases the failures or partial successes are quite as interesting as complete successes, and beginners are certainly more likely to learn something from them. With this apology I will commence my diary.

15th March. Olivaceous Thrushes laid three eggs. Mud-lined cup shaped nest in a laurel bush.

29th March. Olivaceous Thrushes hatched two eggs.

2nd April. Peacock Pheasant laid two eggs in a scrape on the ground.

8th April. Black Tanager sitting, four eggs. Infertile.

13th April. Bay Cowbirds sitting on four eggs. Cup-shaped nest in a willow. Eggs infertile.

15th April. Two Olivaceous Thrushes left nest.

17th April. Rufous Tinamou sitting, five eggs.

9th May. Rufous Tinamou hatched three young.

17th May. Cinereous Tinamou sitting, five eggs.

18th May. Green Cardinal sitting, four eggs. Cup-shaped nest in privet bush. Infertile.

20th May. Grey-fronted Dove (*Leptoptila rufaxilla*) sitting. This bird was mated to an Aurite Dove. Eggs proved infertile.

21st May. Rufous Tinamou sitting.

23rd May. Red-headed Conures sitting.

24th May. Bay Cowbirds sitting in coco-nut husk.

26th May. Red Mountain Dove sitting.

27th May. Hybrid Necklace Doves sitting.

30th May. Two Peacock Pheasant chicks hatched.

31st May. Cabani's Weaver sitting. Nest over pond.

31st May. Abyssinian Lovebird sitting, four eggs.

31st May. Mexican Rose-finches sitting, four eggs.

2nd June. Tataupa Tinamou laid four eggs. Infertile.

12th June. Mexican Rose-finches hatched four young.

15th June. Abyssinian Lovebirds hatched.

15th June. Olive Finch sitting. Dome-shaped nest in a bush 6 inches from the ground.



Nest and eggs of Reeve.



Reeve incubating.

W. Shore-Baird

To face p. 93.]

- 15th June. Olivaceous Thrushes sitting in old nest.
- 16th June. Red Mountain Doves sitting.
- 18th June. Yellow-breasted Seed-finches sitting, four eggs. Cup-shaped nest in creeper.
- 20th June. Reeve sitting, four eggs. Nest a scrape in ground, in grass about 6 inches long. Bird entirely concealed when incubating by the grass being pulled over the back and head.
- 21st June. Cabani's Weaver threw two dead young out of nest.
- 26th June. Four young Rose-finches left nest.
- 27th June. Grey-fronted Dove sitting. Infertile.
- 27th June. Olive Finch hatched.
- 29th June. Four young Yellow-crested Seedfinches hatched.
- 1st July. Four young Abyssinian Lovebirds hatched.
- 2nd July. Mexican Rose-finches sitting.
- 3rd July. Green Cardinal sitting. Eggs infertile.
- 4th July. Hybrid Doves left nest.
- 5th July. Cinereous Tinamou sitting.
- 6th July. Two young Reeves hatched. Forty-eight hours solid rain drowned these little birds.
- 8th July. Two young Cinereous Tinamous hatched.
- 15th July. Cayenne Rail sitting, four eggs.
- 18th July. Green Cardinal sitting. Eggs infertile.
- 21st July. Four young Mexican Rose-finches left nest.
- 23rd July. Four Abyssinian Lovebirds left nest.
- 24th July. Six Cinereous Tinamous hatched.
- 27th July. Four Yellow-breasted Seedfinches left nest.
- 1st August. Rufous Tinamou sitting.
- 4th August. Cayenne Rail hatched, four young.
- 2nd September. Red-headed Conures left nest.
- 2nd September. Two Hybrid Doves left nest.
- 3rd September. Rufous Pigeon sitting. Egg infertile.
- 7th September. Olive Finch sitting.
- 9th September. Two Rufous Tinamous hatched.
- 16th September. Black-cheeked Lovebirds sitting.
- 18th September. Olive Finch hatched.
- 10th October. Black-Cheeked Lovebirds hatched four young.

24th October. Yellow-backed Whydah laid. Eggs infertile.

26th October. Nyasa Lovebirds laid. Eggs infertile.

29th October. Four Black-cheeked Lovebirds left nest.

15th November. Black-cheeked Lovebirds and Nyasa Lovebird sitting. Young died in shell.

AUSTRALIAN PARRAKEETS

By the MARQUESS OF TAVISTOCK and J. DELACOUR

(Concluded from p. 84)

The genus *Psephotus* is a well-defined group of small Parrakeets whose chief characteristic is the striking difference in plumage between the sexes; the hens are nearly as plainly clad as hen Pheasants are when compared with cocks. Their wings and tails are long but their beaks and feet are small.

The *Psephoti* have very weak and musical voices which could not annoy the most sensitive ear, and are besides graceful and pretty. They are, however, very quarrelsome. They succeed very well in aviaries but should never be confined in cages for any length of time. To keep any *Psephotus* permanently in a parrot cage is exceedingly cruel.

THE RED-RUMPED PARRAKEET (*Psephotus hæmatonotus*) is the commonest of the group; it is very hardy and easy to breed when acclimatized. The male bird is a fine green tinged with blue on the head and wings, with a greyish mantle; his belly is yellow passing into white on the sub-caudals and the rump is red, the outer rectrices are blue and white. The female is greyish green. Young males can be told by their greener hue and by a little red on the back. The length of this species is about 15 inches. Red-rumps should have the same treatment as Rosellas; they do not care for fruit but eat green food freely.

They are charming at liberty and stay well, breed readily, do no harm to fruit and never go down chimneys; they look particularly fascinating running about on a closely-cut lawn. Unfortunately they can only be kept safely where there are no Tawny Owls. I

Red-rump loses his mate he will disappear after a few days if another is not provided at once. On letting out a pair the same precautions should be taken as advised for the *Platycerci*. Red-rumps are natives of South and South-East Australia.

THE MANYCOLOURED PARRAKEET (*P. multicolor*) inhabits the south and interior of Australia; it is the same size as the Red-rump and the male is really magnificent. His colour is satiny green shading into blue, with a yellow forehead. The nape is sometimes brick red, the wings are blue and green with a yellow mark on the shoulders, the belly is red, wings blue and green bearing a yellow spot on the shoulders; the tail is blue and white, green at the base; there is a red spot on the rump and the belly is red, the sub-caudals yellow.

The female is grey green with nape, rump and shoulders spotted with brick red; wings and tail tinged with blue. They fly very gracefully.

They should be fed like the previously mentioned species, omitting hemp and sunflower. They are nearly as ready to go to nest in confinement but not so easily kept in good health. They can be kept out of doors when acclimatized, but when first imported must be kept warm. Manycolours must be shut up at night when kept in an aviary. Their chief trouble is their habit of contracting contagious diseases, especially lepticæmia. But as the germs of this illness are local, one amateur may succeed very well with this species while another cannot save them. Lovable aviaries are very desirable for them, indeed almost essential. Manycolours may be let fly like Red-rumps, but are more inclined to stray and it is necessary to take more precautions.

THE HOODED PARRAKEET (*P. dissimilis*) is one of the prettiest Parrakeets in the world, and when flying, looks like a huge butterfly. The male has a black top to his head, his cheeks, throat, breast, belly, and rump are turquoise blue; his back and mantle are greyish brown, tail and wings deep blue green; the small wing-coverts are golden yellow and the sub-caudal feathers orange-red. The female has a greenish grey head; back, wings and breast pale green; the belly is blue, sub-caudals orange-red, tail green and blue. The female is a light brownish olive, washed with pale blue on the cheeks, breast, and under parts. This species is a native of North Australia.

The Hooded Parrakeet should have the same food as the preceding species. As it comes from the tropics, it needs to be very carefully acclimatized, and on first arrival it requires a high temperature; later it should be shut up for the night and in bad weather healthy specimens may be kept outside throughout the year. Unfortunately the Hooded Parrakeet often retains the habit of moulting and breeding according to Australian seasons and to cure this it should be treated like Brown's Parrakeet. In its native land it breeds in the nest of the termite and consequently some hens are difficult to please and will not make use of the ordinary nesting logs, and must be tempted with other shapes.

Where there are no Owls these Parrakeets can be given their liberty and a pair of them will charm their owner more under those conditions than a whole aviary full of other birds. When they have settled down they never stray, but a good deal of care must be exercised in liberating them. Young cocks are like the hens except that their cheeks are a little bluer; the black and yellow colouring appears after the first moult.

A dealer will occasionally offer a young bird, apparently in good health, but minus flight and tail feathers. On no account should it be bought, for not only do the missing feathers never grow, but in time the bird loses even the feathers which it has. The Hooded Parrakeet has always been a rare species in Europe.

GOLDEN-SHOULDERED PARRAKEET (*P. chrysopterygius*) is found farther south in the interior of Australia; it is much like the above but can be distinguished by its smaller hood and by a yellow band on the forehead. The hen also shows traces of this band. It is even more rarely imported than the Hooded.

THE PARADISE PARRAKEET (*P. pulcherrima*) from East Australia is a delightful bird which was believed to be extinct but which has recently been rediscovered in small numbers. The male has a red forehead and a black crown; his back and wings are deep grey-brown with red shoulders; the sides of his head and neck, the throat and breast are green; his eyes are encircled with yellow; his flanks, rump, and tail-coverts are turquoise blue tinged with green; his belly and subcaudals are rosy red; tail deep green and light blue. The female is

distinguished by the sides of her head and neck, and her breast being brown or beige; her belly is pale blue with red spots.

There is now very little chance of this species being imported, though it is said that one or two have reached America. Former amateurs who had them found them not particularly susceptible to cold and quite easy to breed, but that they seem to have been liable to contagious diseases like Manycolours and would appear to require the same treatment.

BOURKE'S PARRAKEET (*Neopsephotus bourkei*) from South Australia superficially resembles the genus *Neophema* but in reality it is very distinct and has no very close affinities. It has none of those faults which make some people dislike Parrakeets. Its plumage is not gaudy but softly shaded, rosy grey on the head, neck, and breast, grey edged with green on the mantle and wings, the folds of which are light blue; the belly is pink, the under tail-coverts sky blue, the tail blue and dark grey. It has a melodious voice, does not bite when handled and does not destroy shrubs. The sexes are alike in colour but the difference in the size of the head is sufficiently pronounced to enable them to be distinguished.

Bourke's Parrakeets inhabit desert country and never bathe in confinement nor eat green stuff; they feed exclusively on millet and canary seed. There is no harm in offering them groundsel or flowering grass but they seldom touch it. Sometimes they like a turf of grass, especially when it begins to wither. Once acclimatized they stand cold fairly well if protected from wind and damp. They go to nest readily but must only be allowed to breed during the warm months. Breeding pairs should be kept by themselves as the cocks may kill each other or if they do not go as far as that, the weaker will be badly plucked. The bottom of their log must be quite near the entrance hole, for this species, unlike most other Parrakeets, is not a climber.

Bourke's Parrakeets are susceptible to disease, particularly tuberculosis, and need a clean sunny aviary. Their worst fault is their inveterate habit of banging themselves against the roof and sides of their aviary in flight if they are frightened, or, in the case of the young birds, when they leave the nest. It is absolutely necessary to have

an inner lining of string netting and to see that it is always perfect taut. I have found this species inoffensive with other birds.

THE GRASS PARRAKEETS (*Neophema*) include some of the most interesting small Australian Parrakeets. They are, generally speaking, harmless to other birds, do not bite, and their voices are not disagreeable; they are extremely pretty and breed quite readily in an aviary. Unfortunately they are excessively rare and competent observers assert that they are on the way to complete extinction; but for as much as that it has for years been believed that certain species had entirely disappeared, and yet they have come to light again either in little scattered flocks or isolated pairs.

THE BLUE-WINGED GRASS PARRAKEET (*N. venusta*) is found in Tasmania and specimens still occasionally arrive in Europe and America. Its colouring is olive green, yellower on the cheeks and belly, which last is sometimes tinged with orange; a narrow band across the forehead; the wings and part of the tail are very bright blue. The feet and beak are small and delicate. Its length is about 10 inches. The blue band across the forehead is duller and less marked on the hen, and she has also greenish feathers in the blue patch on her wings. Young birds have less blue than adults, but assume their full plumage long before they are a year old. Adults are quarrelsome; the hen being more pugnacious and stronger than the cocks and a watch must be kept lest a hen take a dislike to a new mate, for she may injure him severely. Bluewings require heat when they first come over, but once acclimatized they will live out of doors if they are shut up at night and during cold weather.

These Parrakeets are liable to septicæmia and it is advisable to house them in movable aviaries. Like Bourke's they have the annoying habit of hitting themselves against the wire and require an inner lining of string netting to keep them from biting the roof mesh. A smooth plank on which they cannot hang should be fixed just underneath; they do not gnaw hanging head downwards as they are not good at climbing.

Bluewings are rather liable to sunstroke in great heat for they are apt to expose themselves most rashly. A few leafy branches should be laid on the roof of their aviary so as to intercept the direct rays, but in winter they need all the sun they can get. Like other

members of the group they are subject, when first imported, to the same disease of the eyes which causes losses among Barrabands; with Grass Parrakeets it is always fatal.

Grass Parrakeets eat millet and canary seed with a little hemp and plenty of groundsel and flowering grass. They usually lay four eggs but unless they are kept in a spacious movable aviary, male birds bred in captivity are mostly infertile. As already mentioned when dealing with Bourke's Parrakeet, the entrance hole should be near the bottom of their nesting log.

THE ELEGANT PARRAKEET (*N. elegans*) from South-West Australia is much like the foregoing but the blue strip on its wings is much narrower and of two shades, and the green more golden. It is now very rare but in former times it was well known and has been bred in aviaries. Old males may have an orange patch on the abdomen like Bluewings and Orange Bellies.

THE ORANGE-BELLIED PARRAKEET (*N. chrysogaster*) is a native of Tasmania and South and South-East Australia. It is like the Bluewing but is greener and the blue area on the forehead is wider, more indefinite, and less brilliant in colour. The species is almost unknown in aviaries, and is probably on the verge of extinction.

THE ROCK GRASS PARRAKEET (*N. petrophila*) is much like *Venusta* but is duller and more olive and has less blue in its wing. It is the palest-coloured member of the group. This species inhabits certain coastal districts in South-West Australia and nests in holes under large stones. It is being exterminated by cats and rats, and is now very scarce. I had two males in my possession for several years; they were sensitive to the cold and could not be wintered out of doors. One of them paired with a hen *Venusta*, but the eggs were clear. It has been bred in Germany.

THE TURQUOISINE (*N. pulchella*) is a native of South and South-East Australia. It is a tragedy that this lovely little bird was not reserved in Europe, for it bred freely and might have been domesticated like the Budgerigar. For years it was believed to be extinct but latterly a few specimens have been discovered and two or three have reached Europe and the United States. The male bird is olive green above with blue forehead, cheeks, and wings, a red patch on the shoulders,

and all the under parts and the tail yellow. The female has none on the shoulders and only a trace of blue on the cheeks. Young birds have even less blue than their mother but attain their full plumage when a few months old.

These Parrakeets should be fed on millet and canary seed with flowering grass and groundsel. They have the same habits and diseases as Bluewings. Turquoisines in former days were commonly in the market.

THE SPLENDID PARRAKEET (*N. splendida*) is more beautiful even than the Turquoise Parrakeet; it was a native of South West Australia and has always been very rare. It is, however, reported to have been bred in the Zoological Gardens of London. Its back, mantle and tail are green, the latter being yellow underneath and at the sides. Its head is brilliant cobalt blue; its breast bright red; its wings a mixture of light and dark blue; its abdomen golden yellow. The hen has no red breast. This species which was thought to be extinct has lately reappeared. It is said that two specimens were caught and eaten by a farmer whose granary they had entered during drought! Owing to the destruction of its refuges in times of drought and the increasing colonization of the country, there is no hope that the bird will maintain itself permanently even in the deserts of the interior.

THE CYANORAMPHUS PARRAKEETS come from New Zealand and Oceania and are about the size of a Rosella. They are usually green but their heads are adorned with red or yellow and their wings tinged with blue.

THE NEW ZEALAND RED-FRONTED PARRAKEET (*C. novæ-zelandiæ*) was formerly very frequently met with in aviaries, but owing to its scarcity in its native country and to the strict protection afforded it, it is now hardly ever seen here. It is a fine grass green, has its flights marked with blue and all the crown of the head bright red as well as the lores and a small patch on the flanks. The sexes are alike but the hen's beak and head are smaller and weaker.

This species has often been bred and used to be considered hardy and prolific. I once had two males and one female but one cock injured the hen and the other killed her, so the species is not always as gentle.

some writers declare. It does as well in a cage as in an aviary and learns to speak. Its food should consist of two parts of canary to one of hemp and one of oats, together with apple and green food.

THE NORFOLK ISLAND PARRAKEET (*C. cooki*) strongly resembles the Red-fronted but it is much larger and it has a stronger beak. It is now almost extinct, having been exterminated by rats. They appear to be gentle but are apt to feel the cold: they should not be allowed much hemp or sunflower seed.

THE YELLOW-FRONTED NEW ZEALAND PARRAKEET (*C. auriceps*) is even rarer than the above. It differs in not having red cheeks, but a wide yellow band on the top of its head while its forehead is red, and there is a red patch on the rump. It was freely imported in former times and was scarcely less prolific than the Red-fronted; it was bred several times in France, especially by Delacour.

Besides these species the following have been imported: *C. saisseti* from New Caledonia, *C. unicolor* from the Antipodean Islands, and *C. erythronotus* from the Society Islands. The first may be distinguished from the Red-fronted by its larger size, and yellow cheeks and throat; the second is all green; the third has a black forehead and the lores; a spot on the ear-coverts and the rump are reddish brown; its body is olive green freely marked with blue on the wings and tail.

The two species belonging to the genus *Nymphicus* differ from the *Myiophobus* by their pointed crests. They are pretty, interesting, and inoffensive. They have been bred in confinement but very seldom, and they are usually most difficult to keep alive. Occasionally one may come across an individual who lives many years without special care; but for one like this a dozen and more will die off most vexatiously.

THE UVEAN PARRAKEET (*N. uvæensis*) from the Loyalty Islands is grass green, yellowish underneath and on the rump; it has a crest composed of six curved dark green feathers, becoming paler towards the extremities; the feathers on the forehead are dark green with red tips; wings and tail partly blue; the face, cheeks, and chin are dark green. I believe the sexes to be alike, unless there is some difference in the size of the head and beak.

Those which I had did not live long; some which were in aviaries died of anæmia and softening of the bones; while others living in cages, succumbed to aspergillosis. It would seem that the best method of keeping them in good health is by giving them very nourishing and varied food; hemp, canary, millet, oats, sunflower monkey nuts, fruit, green food, and mealworms. This Parrakeet has a peculiar but not disagreeable voice; it is active and interesting and becomes perfectly tame.

THE HORNEPARRAKEET (*N. cornutus*) from New Caledonia is even larger and handsomer. Its chief difference lies in its head and crest. This last is composed of two long narrow feathers which point backwards and are black with red tips. The top of the head is red, black at the base of the feathers; the nape and flanks are yellow, face and cheeks black; the remainder is grass green tinged with yellow on the rump and with blue on the wings and tail.

It is rarer than the Uvean and has not been imported for a long while. It was bred several times in France by Cornily, who also reared the Uvean Parrakeet and hybrids between the two; but breeding them at all must have been due to a lucky chance combined with uncommon skill.

THE SWIFTPARRAKEET (*Nanodes discolor*), very widely distributed throughout South-East Australia and Tasmania, is an attractive and very distinct little species. It is the same size as the Grass Parrakeets; it has a yellowish beak and feet and golden yellow eyes. The forehead and throat are red, the latter surrounded by a yellow line; the crown of the head is bluish and all the rest brilliant green above, paler beneath, save for the wings and tail, which have blue and red markings.

This Parrakeet is interesting in many ways but hard to keep alive in confinement and may die off without reason in spite of every care. Although it feeds in the same fashion as the Lories, and is, like them, active in climbing, it really has very little in common with that family in its habits and character, but reminds one rather in some ways of the Barraband. The sexes are alike and very difficult to distinguish, but the cocks are brighter and have a yellower iris. Swift Parrakeets are gentle and do not quarrel among themselves even when breeding.

their diet should consist of bananas and sponge cake in equal parts, washed and mixed together; soaked canary seed, fruit and all sorts of green stuff; a few mealworms may also be added. They bear cold very well but should have some meat in the severest weather. A form of enteritis, due neither to chill nor to irritants in the food, is their most serious disease and they may contract it suddenly when in perfect condition. We do not know how to prevent nor cure this complaint. Formerly this species was bred in France in large quantities especially by Rousse; he kept several pairs together in outside aviaries provided with good shelters; he fed them on seed, fruit, and bread and milk. In their wild state they, like the Lories, feed chiefly on nectar from the flowers of the Eucalyptus.

THE BUDGERIGAR (*Melopsittacus undulatus*) is too well known to require description. It is a native of Australia, where it is migratory, and there are also many of the preceding species. The sexes are alike but the cere (the skin covering the base of the beak) is blue in the male and cream or brown in breeding hens; bluish white when the female is brooding. The young have their foreheads streaked with black, while those of the adults are pure yellow. The wild type is green with yellow head, the face marked with deep violet blue, and the wings and tail partly blue; the mantle, crown, and sides of the head are barred and streaked with dark grey. In confinement many different colour varieties have been bred, some very beautiful. The most striking are light blue, deep blue, mauve, grey, yellow, olive, and white. When budgerigars are kept in flocks they breed very freely. It may chance that a hen here and there may turn vicious and kill her neighbours, but this is quite exceptional. Odd hens, however, should be removed if they disturb nests, but surplus cocks are seldom a nuisance.

Some amateurs allow Budgerigars to breed all the year round, but it is wiser to rest them during the cold months either by separation of the sexes or simply by taking away the nest-boxes. Some strains are very hardy, but others having been kept and bred indoors for generations have become tender and are as subject to chills as waxbills.

Budgerigars are not to be recommended as companions for small birds, and they destroy shrubs in an aviary. The Budgerigar is

a delightful species at liberty and well worth the trouble it may give in establishing it.

It is necessary to procure several strong, healthy pairs which have been bred in an outside aviary and to keep them shut up for several months on the spot where it is intended to release them. They can then be let out a few at a time, with food at hand and nest-boxes in the trees. It is wise to catch up young birds directly they can feed themselves; otherwise they stray. They should be fed at first on soaked canary seed and kept in a sheltered aviary. In the middle of September all old cocks should be caught up and placed in aviaries. When it is certain that no young remain in the nests the hens can also be caught. They are easily taken if they have been accustomed to be fed in trap cages which can be closed by pulling a string. It is not safe to let Budgerigars winter at liberty on account of owls. Budgerigars do no harm to the garden and never touch either buds or fruit. The species is completely domesticated in Europe, and in breeding it has become a considerable business, particularly in France, where tens of thousands are raised every year. They are fed on canary seed and millet with all kinds of green stuff and a little soft insectivorous food with bread and milk when they are nesting. Old wall mortar is indispensable for them. In southern parts, Toulon in particular, where they are chiefly bred, they are given Thuya boughs and lettuce leaves.

Before leaving the Parrakeets we must mention those strange Australian birds, distantly related to the *Platycercinæ* which are remarkable for their terrestrial habits, and live on the ground, where they run with great rapidity on their long legs. They fly rapidly but never perch.

THE GROUND PARRAKEET (*Pezoporus terrestris*) is found in South and West Australia and Tasmania. It is 12 inches long with a well-developed tail, and it has a very short beak. Its plumage is green watered with black and tinged with yellow on the abdomen and tail; its forehead is orange red. The sexes are alike. It is becoming more and more rare and is hardly ever imported. It is active by day and nests in tufts of grass and herbage.

THE NIGHT PARRAKEET (*Geopsittacus occidentalis*) may be known

om the above by its short thick nails and shorter tail; it is also
ightly larger and a greyer green without any red on the forehead.
inhabits South and South-West Australia but is believed to be
xtinct. It spent the day crouching in tufts of herbage, only coming
ut under cover of darkness. It has been imported once or twice.

A HYBRID CARDINAL

By WALTER BARNETT

In the spring of 1922 I bought a pair of Green Cardinals and turned
them out into the aviary in May. The cock bird, apparently quite
healthy, I found dead one morning about three weeks later. Here,
I may say that the aviary is built against a wall facing south-west.
It is open to all weathers, winter and summer, except that one end is
roofed in with glass to keep the food dry in wet weather. Prior to
the arrival of the Green Cardinals I had a Virginian Cardinal (male),
but it was not until the summer of 1925 that the Green Cardinal hen
showed signs of nesting. In that year, at the end of June she built
a nest of sticks and grass, rather an untidy structure, inside a wire
basket hanging from the roof under the end that was covered in with
glass. She laid four eggs, blue spotted with dark brown, and began to
sit. At the time, there was a spell of very hot weather, and she was
in full sun directly under the glass, I put a bit of canvas shading over
the glass to give her some protection. My attention, however, was
not appreciated, for she at once deserted her nest. I had no idea
at that time who her mate was, or whether the eggs were fertile. On
breaking one of them I discovered that they were.

She was not many days before she got busy again, carrying up
bits of fresh grass to the old nest, and then laid three more eggs. This
time, something took the eggs, and I have never to this day discovered
who was the culprit. I rather suspected a pair of Spreo Starlings
(wrongly as it proved later) for I had seen one of them take a Zebra
finch's egg out of a nest-box.

Nothing daunted, the Green Cardinal laid a third time. So I
caught up the Spreos and caged them inside the aviary. However,

the eggs again disappeared, so the Spreos were once more set free. So each attempt at nesting that year ended in disaster.

Last summer, however, she built again in the same basket, laid four eggs and again they were taken. There was not even a trace of broken shells. Soon after I saw her again carrying bits of grass so I took the basket away, in the hope that she would shift elsewhere. She then built a nest in a small fir-tree, laid three eggs, and this time was not molested and hatched them in July. There was no doubt during incubation as to her mate, for whenever any mealworms were thrown in, the Red Cardinal at once took them up to her and fed her while she was sitting. As soon as the young hatched he at once went on to the nest when she came off to feed and both parents fed the young ones in turn. One young bird died in the nest, another I found dead below on the ground. The third became fully fledged, almost ready to leave the nest, when there was a violent thunderstorm. The nest got drenched and next morning the last remaining young one was dead. This was at the end of July.

Early in August, she began building again in the basket which I had replaced, so I moved it at once into a small wooden shelter inside the aviary, a much more secluded spot with a roof over her head in case of storms. My hope that she might follow her partly-built nest to its new locality was fulfilled. She finished the nest, laid two eggs at some days interval, and duly hatched one. The other egg came to nothing. Both parents again fed the young one. There was the usual soft food available and I gave them a liberal supply of fresh ants' eggs and gentles, but was sparing with mealworms. In due course the young one left the nest. The first morning I found it out on the ground I had rather an anxious moment. Both the Spreos were standing over it and I was much afraid that they were going to kill it. My fears, however, were quite unwarranted, for I soon discovered that the Spreos were feeding it even more assiduously than its own parents. The Spreos, usually gluttons for mealworms, flew down to the young bird, holding the mealworms in their beaks at the same time giving vent to a loud twittering song. As soon as the young one opened its mouth, the mealworms were popped down its throat. It continued to thrive, and until it could fly I caught it

at dusk and put it in the nest. It then stayed there, or on a perch near by under shelter for the night.

In colour now it is rather a rich olive brown without any distinctive marking, except for the black round the base of the beak, which rather resembles the male parent. The crest is large and erect, but identical in colour with the rest of its plumage. It is quite tame and very quick and sprightly in its movements. I imagine now that it is six months old that it has attained its full plumage.

THE PERFECT GENTLEMAN

A TALE OF A BARNARD'S PARRAKEET

By the MARQUESS OF TAVISTOCK

I have, this winter, added one more to the list of the Barnard's parakeets of my acquaintance who have possessed abnormal temperaments. There was one that despised matrimony and devoted himself to the unpleasant hobby of biting human noses ; another whose devotion to his mate always turned to furious resentment if she left his company for a few days, even against her will ; a third who hated all Broadtails irrespective of sex and loved all other Parrakeets, likewise irrespective of sex. The Perfect Gentleman came to me last summer, but at first I did not realize he was in any way unusual. For several years I have had two hen Barnards for whom I have vainly tried to obtain mates. Barnard after Barnard has been sent on approval, only to turn out to be another female ; if the new one did happen to be a male it was some wretched little aviary-bred degenerate of no possible use and whenever I got on the track of a really good cock, someone else had always snapped him up before me. Meanwhile the ladies, deprived of the wholesome influence and discipline of the opposite sex, became more and more uppish and unfeminine in their demeanour, a circumstance which I foresaw would not add to their charms in the eyes of the husbands I hoped to provide for them, for if there is one thing a cock Broadtail cannot stand it is a minx. Last spring I at length secured a good imported cock and paired him to one of the hens, and

later in the year I got hold of a second cock, who is the Perfect Gentleman, as a mate for the green-breasted hen whose portrait is to appear in the Magazine at a later date. In buying the Perfect Gentleman from a fellow member I heartlessly arranged to have him separated from the wife with whom he had lived happily for some time—a dirty trick for which my conscience has reproached me since I have come to realize the sterling merits of his character. Many cock Barnardons being parted from their lawful spouses and introduced to a strange female of unattractive habits would have murdered her without loss of time, but that was not the way of the Perfect Gentleman. Although he did not pretend to be greatly impressed with his new companion he evidently came to the conclusion that there was some excuse for the poor thing and he lived with her on terms of kindly tolerance. Early in the winter I made arrangements for giving both cock Barnardons their liberty. The feeding and management of my Parrakeets at liberty is complicated by the fact that one set have to be shut up every night to protect them from Owls and consequently must know of their feeding places except those inside an aviary, while the other set, which is composed of birds too powerful to need protection, or too spiteful to be confined together at night, have to be trained to feed in places where the seed is not visible to those that have not been taught where to look for it. Most of the Parrakeets that roost at liberty are fed inside specially constructed boxes and the second cock Barnard was educated to the use of the box, but I trained the Perfect Gentleman who was the first to be released, to enter the shelter of a small aviary up the garden, the top of the flight of which is always open. Soon after being set free the Perfect Gentleman paid a civil visit to his former companion, but instead of being pleased, the ill-natured hen flew at him and tried to attack him through the wire. He was not at all afraid of her, but his feelings were naturally hurt. From that day on he has never settled on the top of her aviary; it is undignified to engage in a brawl with a female; if she is rude to you, it is best to avoid her. The hen has long ago repented and calls seductively to him, but although he often looks at her from a distance he will not come within 30 yards of her home. When the time came for the release of the second cock I was a little anxious lest there should be

bad fight between the two males, for all normal Broadtails love row when they are in perfect health and spirits. A few hours after the second bird's release I noticed a cock Barnard in the small aviary of the garden already referred to. He was looking inside the little door of the shelter where the Perfect Gentleman's food was kept. On getting near I was surprised to see that it was not the Perfect Gentleman but the second cock and still more surprised to discover the Perfect Gentleman himself inside the shelter, feeding amicably within a foot or two of the other. Instead, therefore, of flying at him the moment he set eyes on him as any ordinary cock Barnard would have done on meeting a strange male on his ground, he had civilly conducted the newcomer round the garden and asked him in to lunch ! In the afternoon the Perfect Gentleman showed his companion round the aviary field, called on the second cock's wife, refused to be embroiled in the fight which that lady tried hard to precipitate, wished the couple good day and flew off to his tea. Some time later, it is true, there was a temporary break in the amicable relations between the two cocks, but the Perfect Gentleman was in no way to blame. He had simply flown into a tree near the second cock and the latter was rude enough to make an unprovoked attack upon him. In the *mêlée* which ensued the Perfect Gentleman proved himself by no means lacking in courage and came off victorious, but he bore no ill-will, for on subsequent meetings with the second cock he was as good-natured as ever, clearly having decided to let bygones be bygones. It might be imagined that the Perfect Gentleman's good humour was simply due to the fact that he was not in breeding condition, but nothing could be further from the case. I have never seen a more active and virile bird. All day long he was whistling and tail-wagging and examining holes which might do for a nest. And yet never once have I seen him attack another Parrakeet. Barrabands, Ringnecks, Kings may settle close to him, but however excited he may be there is no attempt to drive them off. On Christmas Day a tame cock Hooded Parrakeet escaped from his aviary and flew up the garden. When I went to look for him I found that the Perfect Gentleman had taken him under his care. He looked on while I coaxed the Hooded into a cage, followed back to the bird-room, came close to the cage when I put it down at

the bird-room door, expressed the hope that the Hooded was not tired by his excursion, wished him goodnight and flew away.

Not the least striking feature of the Perfect Gentleman's conduct is his delicacy in never forcing himself unduly upon any of his neighbours. He can be sociable without ever being a bore. A predecessor referred to at the beginning of this article, aroused one's astonishment by the large-heartedness he displayed to all distant connexions but his best friend could not have denied that he was ill-mannered and eccentric. He may have meant well, but it was not really nice of him to pester the old Masked Parrakeet with offers of half-digested food, when it was obvious that "Georgie" feared and disliked the entire feathered race and only cared for the company of human beings and rats; nor, if he had had any tact, would he have forced his society on a Barraband at the precise moment when the latter was wooing the lady of his choice; nor if he had had any sense of humour, would he have finally laid his heart at the feet of an enormous and elderly Amazon Parrot more than three times his size.

Another remarkable fact about the Perfect Gentleman is that he never uses bad language. Every other robust male Broadtail I have come across has only to hear or see a rival, to start a rapid clicking noise with his beak, low, malevolent, and most expressive. The Perfect Gentleman, living, as he does, in charity with all birds is blameless in thought and consequently in speech. . . . The short winter day is closing in and the birds rouse themselves to that last period of activity which precedes bedtime. A Ringneck, tilting slightly from side to side, crosses the aviary field in swift, direct flight, his appearance evoking a chorus of excited cries from his companions below. Kingbirds pass backwards and forwards with restless grace. The two hen Barnards break out into loud, sweet whistling in which the Perfect Gentleman joins. There is a pause and very far away there comes the whistle of a fourth Barnard. The chorus is renewed and a few seconds later the second cock swings into a tree above the aviaries. The Perfect Gentleman flies to the same tree and settles a few yards from the newcomer. He bows to him three times and addresses him in gentle chuckling tones. "I hope, sir," you can hear him say "that you have spent an agreeable day? Well, it is getting late

"I will wish you goodnight." He leaves the tree and goes dipping across the garden to his roost. A few moments later the second cock has taken a rather different line to his own chosen sleeping place. The Kings, all together this time, pass overhead once more; there is a Crimson-wing with them, but he leaves them and makes his way to a tall cypress while they keep on to the evergreen oaks behind the house. The Roseate Cockatoo, ceasing at length from his misdirected efforts to destroy his mate's aviary and murder his son, launches himself into the air, circles round once and then heads for a garden half a mile away, his screams growing fainter and fainter in the distance. His night's repose is as peaceful as the Perfect Gentleman's it is a great deal more than he deserves!

AVICULTURAL NOTES

Authentic records of the length of life attained by birds in captivity are always of interest. Here is one concerning a Red-crested Cardinal which belonged to Mr. Melville, of Sutton Bridge, who writes: "I bought it twenty-five years ago next May at Rosario, River Plate, and died on the 20th February, 1927."

Mrs. Prestwick says that she hears that a blue Lovebird was exhibited at a recent show at the Hague, the owner being, apparently, a German. Can any member supply further particulars?

A scientific test of the value of ultra-violet rays to chickens is being carried out by Mr. Will Hooley, F.Z.S., the well-known poultry judge, at his research farm in Kent, where he is rearing one brood under ordinary glass and another under the new glass which admits the ultra-violet rays of the sun. He is also making experiments in feeding chickens on foods that have been exposed to ultra-violet rays.

We shall look forward with much interest to the results obtained by Mr. Hooley because we believe that the application of these rays

to young animals of all kinds may have a most beneficial effect, and we know of more than one aviculturist who has installed the system either by means of vita-glass or special electric lamps, into their aviaries.

Bone-weakness is very prevalent in young animals that are reared artificially, especially during the winter months in our dull climate and there is little doubt that this is accounted for to a large extent by the absence of ultra-violet rays.

The application of artificial sunlight by means of electric lamps made with special glass that admits the ultra-violet rays to tropical sun-loving birds, should prove very beneficial, and the new Bird House at the Zoological Gardens is to have such an installation.

For nearly six months a white Cockatoo has been living wild with a flock of Rooks in a park near Reading, so the *Daily Mail* informs us. It was formerly the pet of a lady living at Fleet in Hampshire, but being frightened by a dog, flew away, and is now as shy as the Rook with which it lives quite happily.

The Editor of *British Birds* desires to make it known that his readers have placed rings on the legs of over 170,000 wild birds during the last seventeen years. Each ring is stamped Witherby, High Holborn, London, and bears a distinctive number. Any person finding a bird bearing such a ring is asked to communicate at once details of the number and the date and place of the finding or capture of the bird to the address named, in order that its migration and other history may be recorded.

This system of ringing young birds has proved of immense value in adding to our knowledge of the migration of birds. Two Kittiwake Gulls ringed as nestlings, one in 1923 and the other in 1924, in the Farne Islands, have been reported from Newfoundland in 1924 and Labrador 1925 respectively.

Mr. Shore-Baily, in the interesting diary of his successes and failures, mentions the fact, which is only too true, that members are slow to record their failures, whereas these are often as helpful to fellow members as are records of success, as they often show where a fault has been, and what should be avoided. Members are urged to write full accounts of the many incidents that happened in their aviaries and which may be of interest to other members, and not to wait until they think they are entitled to a medal before putting pen to paper.

In a recent consignment of birds from Mexico, received by Messrs. Chapman, were three species which are apparently new to aviculture, namely the Crested Grey Bird (*Ptilogonys cinereus*), a bird superficially resembling the Clarino, but more closely allied to the Waxwings; the thick-billed Cardinal (*Pyrrhuloxia sinuata*); and the Mexican Barred Partridge (*Philortyx fasciatus*) all very desirable species from the avicultural point of view.

THE SOCIETY'S MEDAL

It is proposed that both the Society's medals, namely, that for the first case of breeding in Great Britain and that for the first case in Europe, be awarded to:—

Captain H. S. Stokes, for breeding the Nyasa Lovebird (*Agapornis lilianæ*) (1926, page 169).

Mr. Herbert Bright, for breeding Grayson's Dove (*Zenaidura macroura graysoni*) (1926, p. 223).

It is proposed to award a medal to the following members for the first case of breeding in Great Britain:—

Captain Reginald Waud, for breeding the Golden-crowned Conure (*Conurus aureus*) (1926, p. 327).

Dr. Wildeboer, for breeding the Guiana Parrotlet (*Psittacula guianenses*) (1926, p. 244).

If any member or reader should know of a previous instance, the Hon. Secretary would be glad of information without delay.

CORRESPONDENCE

TWO NEW RAILS

SIR,—The smaller Rails have always attracted me, and I am glad to have had the chance of acquiring two species rare to Aviculture.

Limnopardalis rytirhynchus is given in the B.M. Handlist as hailing from Brazil and Peru, though my four specimens are said to have come from Guatemala. Length, 9 inches; olive green above, deep slate grey below; bill very long, pale green, spotted with red and blue at the base.

The Black Rail of Africa, of which Mr. Gurney wrote last month is very attractive on account of its small size (7 inches) and neat shape. I have two pairs and a baby, from Messrs. Gamage's collection. Although not an authority on the keeping of Rails, I believe they are pretty hardy, wanting a soft floor covering such as peat-moss, plenty of branches to climb amongst, both indoors and out, and a small pond fringed with coarse grass and rushes to induce them to nest, which apparently they do readily. A coarse and not too rich insectivorous food with boiled rice and potato and a little raw meat seems to satisfy them.

H. S. STOKES.

 NYASA LOVEBIRDS

SIR,—Some time last July, Messrs. Chapman brought over a large consignment of these birds. Amongst them were a number having a good deal of black on the face and throat. Our Editor in the August issue of the Magazine suggested that these were wild-bred hybrids between the Nyasa and Black-cheeked Lovebirds. In order to test this theory I procured two pairs of the darkest-faced birds I could find. These have nested several times but unfortunately no young have been reared, but strange to say they have now entirely lost the black on the face and could not be distinguished from birds of the normal colour. Does not this do away with the hybrid theory?

WM. SHORE-BAILY.

[These dark-faced birds are rather puzzling. I have seen several young aviary-bred Nyasa Lovebirds and some show no dark colour.

the cheeks, while others are nearly as dark as a hybrid which Whitley bred and exhibited at the recent Crystal Palace Show. The fact would seem to be that the Black-cheeked and Nyasa weebird have comparatively recently sprung from a common ancestor and have barely arrived at the stage when they can be regarded as distinct species; at any rate one still occasionally exhibits in its young age traces of a character which, in the adult stage, is only present in the other.—ED.]

KING PARRAKEET IMITATING BARRABAND

SIR,—Among the birds I have kept at liberty this winter is a young male King Parrakeet in immature plumage. As his companions of the same species are adult and much taken up with matrimonial affairs, he has associated a good deal with a Barraband, a playful youngster with tastes similar to his own. Lately he has started to imitate perfectly the calls of the Barraband. Most of the larger parakeets possess to a greater or lesser degree the faculty of mimicry, but it is interesting that the King should have acquired another language while living at complete liberty with others of his own kind.

TAVISTOCK.

KEEPING BEE-EATERS

SIR,—With reference to Lord Tavistock's letter in the February number of the Magazine, suggesting feeding delicate birds like Bee-eaters throughout the winter on cluster flies. I have used these flies for years for certain birds, with, I am sure, most beneficial results: there is a quick and noticeable result in the condition of my Crimson-breasted Shrikes, to give only one example, when they have them. Lord Tavistock says, the flies are very easily captured when they enter the house in the autumn, which in my case they do in swarms, and I easily keep them alive in the small wire meat safes, which one gets everywhere abroad; the difficulty of giving them sufficient moisture I get over by placing a small sponge in a saucer, which it just exactly fits, of water. In this way the flies cannot drown themselves and obtain all the moisture they need.

G. H. GURNEY.

COLOUR BREEDING IN BUDGERIGARS

SIR,—I am a great believer in in-breeding to produce any colour in all stock.

I have in-bred my strain of Budgerigars (with what I consider judgment) more than most people, and with no bad results. My birds are not coddled in any way, it has always been the survival of the fittest. Mr. Bradshaw bred a very good white (as whites go at present) from a pair of blue Budgerigars he got from me, and I am not surprised that Mrs. Chatterton has bred whites, as she got her male birds from me, and her females from two gentlemen who got their original birds from me.

For my own protection I may say I have no birds to spare.

JOHN W. MARSDEN.

HYBRID LOVEBIRDS BREEDING

SIR,—Last year my hybrid Black-cheeked—Peach-faced Lovebirds breeding *inter se*, produced two of their own peculiar progeny.

J. SUMNER MARRINER.

[The discovery that these two quite distinct Lovebirds are capable of producing fertile hybrids is of great interest.—ED.]

CANDIDATES FOR ELECTION.

- GE BRADSHAW, Ingram Road, Wahroonga, Sydney, Australia. Proposed by F. W. S. Mayer.
- ON H. DANBY, 4 Carlton Terrace, W. Ealing. Proposed by C. Whale.
- LINGWORTH, Hawthorn House, West Meadows Road, Cleadon. Proposed by E. Maud Knobel.
- AM KADOTA, 1016 Geary Street, San Francisco, California, U.S.A. Proposed by F. F. M. Williamson.
- LIGHTFOOT, The Gables, Upton Heath, Chester. Proposed by E. Maud Knobel.
- AIN THE HON. MICHAEL LYON, Glamis Castle, Glamis, Forfarshire. Proposed by B. Horsbrugh.
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- AM ERNEST WOOD, 2 Daleside, Lincombe Drive, Torquay. Proposed by E. Maud Knobel.

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- INSWORTH, to 7 Samoa Street, Kilbirnie, Wellington, New Zealand.
- BOOSEY, to Woodside, Keston, Kent.
- F. W. DRAKE, to Canick Cottage, Mylor, Penryn, Cornwall.

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The charge for Members' advertisements is ONE PENNY PER WORD, and no advertisement must exceed thirty-six words, name and address included. Payment must accompany the advertisement, which must be sent on or before the 1st of the month to Mr. T. H. NEWMAN, "VERULAM," FORTY LANE, WIMBORLEY PARK, MIDDLESEX. All members of the Society are entitled to this column.

FOR SALE.

One West African Love-bird hen (*A. pullaria*). Wanted, one or two hen and chicks.—HEYDON, Corvedale Road, Craven Arms.

For sale, Pair Redrump Parrakeets (outdoor). For sale or exchange, Bauer, Bonnet, Cactus, Conure, Cocks, Californian Quail, hen.—MARINER, Brixham, Oxon.

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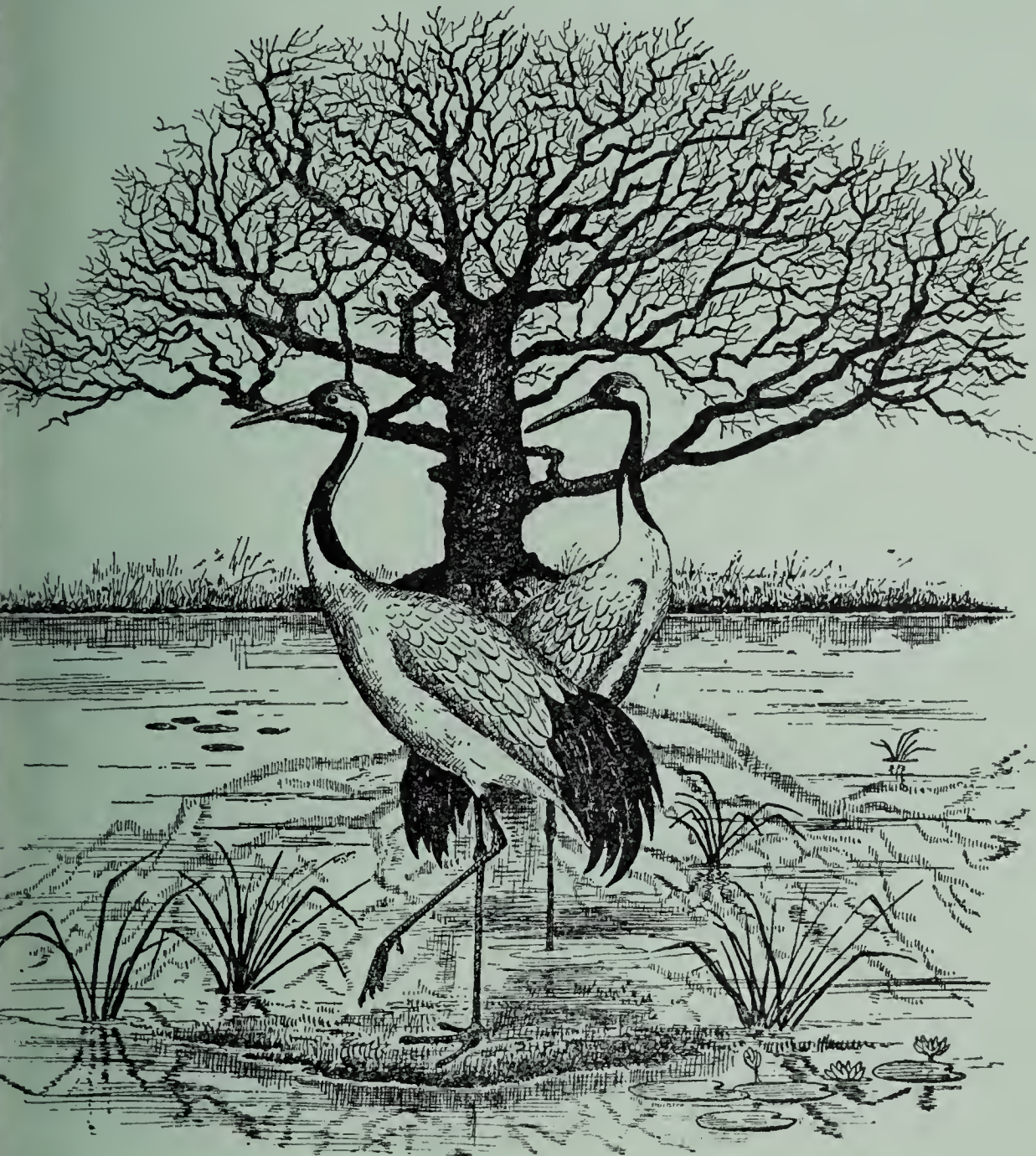
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THE AVICULTURAL SOCIETY.

FOUNDED 1894.

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The Subscription to the Avicultural Society is £1 per annum, due on 1st of January in each year, and is payable in advance. The entrance fee is 10s. The *Avicultural Magazine* is sent free to members monthly. Members joining any time during the year are entitled to the back numbers for the current year, the payment of entrance fee and subscription.

ALL SUBSCRIPTIONS SHOULD BE SENT TO THE HONORARY SECRETARY AND TREASURER, MISS KNOBEL, 32 Tavistock Square, London, W.C.1.

All Queries respecting Birds (except post-mortem cases) and all other correspondence should be sent to the Hon. Secretary, at the above address. Any change of address should be notified to her.

POST-MORTEM EXAMINATIONS.

Rule 1.—A short account of the illness should accompany the specimen. Birds to be sent as fresh as possible to Mr. C. H. HICKS, The Prosectorium, The Zoological Society of London, Regent's Park, London, N.W. 8.

Rule 2.—Should any member require an immediate reply, a stamp addressed envelope must be enclosed with the bird.

Rule 3.—No body or skin of any bird will be returned under any circumstances whatever.

Reports have been sent by post to:—J. Appleby, Mrs. Barlow, G. Beevor, C. Best, E. J. Boosey, Mrs. Chatterton, Mrs. Cottrill, H. N. Danby, A. Decour, Mrs. Henry Denny, A. Ezra, Mrs. Grossmith, A. J. Hall, J. Newton Hayle, Mrs. Mavrogordato, W. Salkeld, J. Stewart, the Duchess of Wellington, D. Weston, and J. York White.

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All communications intended for publication in the Magazine should be addressed to the Editor:—

MR. D. SETH-SMITH,
Zoological Society,
Regent's Park, London, N.W.





Photo D. Seth Smith

GREAT EAGLE-OWL
(*Bubo bubo*)

THE AVICULTURAL MAGAZINE

BEING THE JOURNAL OF
THE AVICULTURAL SOCIETY
FOR THE STUDY OF
FOREIGN & BRITISH BIRDS
IN FREEDOM & CAPTIVITY

Fourth Series.—Vol. V.—No. 5.—*All rights reserved.*

MAY, 1927.

OWLS

By Miss E. F. CHAWNER

Few people keep Owls or take any interest in them, but those who find them so charming that they can only marvel at the indifference of the rest. When it is realized that all Owls are beautiful, many quite ready when once acclimatized, long-lived, and easily kept in health and perfect plumage, quickly become tame, and are often warmly attached to their keepers, their many merits should establish them firmly in the affections of bird lovers.

As a rule their requirements are simple. My Owl's aviaries are merely wooden structures of various sizes with wire-netting fronts. The small species have their houses wired underneath as well, for fear of rats. A stump or two and some perches of various sizes with the bark on are what is necessary inside with a barrel or box in the darkest corner. The floors are thickly strewn with coarse gritty gravel. Owls need plenty of room if they are to do themselves justice. An ideal position is one facing south, under large deciduous trees. During summer the trees provide the necessary shade, and when the leaves are off the birds receive the benefit of any sun which may be granted us, and are protected from north and easterly winds. If they have a dry abode and are safe from draughts (this is very important) they do not mind cold weather so long as their food is not frozen. They should be given a bath, for

though certain species have no use for water in any form, most of them especially the Wood Owls and Pigmies, are great bathers.

The staple food of all my Owls is rabbit, preferably wild ; they thrive on it and do not seem to tire of it ; but of course they do better if their food can be varied. Large species thoroughly enjoy a plump rat now and then ; birds, drowned kittens, and mice are appreciated by them all, though I have found that they soon tire of mice if they are supplied in quantity, but as a titbit now and then they are eagerly taken. Small Owls appear to be largely insectivorous. Pigmy and Scops Owls are mostly fond of cockchafers, though there are exceptions. My hen White-faced Scops (*Scops leucotis*) will catch and eat as many cockchafers as are turned into her aviary, but the male bird will not touch them. I have several times induced a sick bird to feed by giving it cockchafer larvæ, hand-feeding and even cramming it until it was strong enough to feed itself.

Owls are not often on the sick list when they are properly housed and fed, but care must be taken until they are acclimatized. Tropical or southern species are much easier to manage than Arctic or Northern kinds, the latter being very susceptible to cold and damp. The hens are rather subject to egg-binding after they have been some years in confinement. The best, if not the only remedy, is heat. All kinds must have fur or feather in some shape. Owls pair for life, and are usually very faithful and affectionate. They begin to take an interest in each other as soon as the moult is over, and by early spring are generally ready to go to nest. Eagle Owls nest in a scrape made by the male bird on the ground ; Burrowing Owls either tunnel into the earth for themselves or take possession of and adapt some other creature's burrow. Wood Owls like hollows in trees, as do also certain Scops and Pigmy Owls. Some kinds like a tree from which the top has been blown off and nest on the stump. The male bird digs the scrape or burrow or carpenters at the chosen hollow, and when the hen is incubating or has young it is his business to cater for the family while she stays and guards her eggs or young. It is pretty to see the male return with his prey and alight by the nest and give his mate what he has brought. She feeds the young while he watches with the utmost pride and delight.

Incubation lasts four weeks, and the young are usually white or grey.





Photo D. Seth Smith

MILKY EAGLE-OWL
(*Bubo lacteus*)

when first hatched ; some resemble their parents as soon as their feathers have grown, others have an intermediate plumage which often differs considerably from that of the adult, which they do not attain until the second moult. The larger kinds do not breed until they are three years more old ; they lay two eggs in a clutch, and may have two to three clutches in a season. Incubation starts as soon as the first egg is laid, and with some species the second clutch and even the third may be laid before the first brood has left the nest, so that it may contain at one time fledgelings, newly hatched young, and fresh eggs. Pigmy and Scops Owls often lay three or more eggs in a clutch.

In confinement Owls usually seem willing to go to nest, but the eggs are often infertile ; in all probability one great cause of this is want of exercise, for Owls are mostly rather sedentary birds, unless spurred by the necessity of hunting for food, which does not exist in an aviary. Another cause may be inbreeding ; the pairs which come over are frequently taken from the same nest, and unless a sufficient number arrive at once to ensure a thorough shuffling, in all probability brother and sister will be sold together and very few fertile eggs will result from such a union. If they do hatch the young Owls must be left to themselves as much as possible ; the less they are looked at the better. Interference generally results in the young being devoured by their parents.

When all goes well, the young remain in the nest until well feathered, usually about a month ; for the first week or ten days the mother broods them continually and scarcely leaves the nest at all, unless to defend them against some real or fancied enemy, for this she will do to the utmost of her power, choosing death rather than desert her offspring.

While they have young to feed, the old birds live very sparingly, but make up for it during the autumn when they fatten themselves in preparation for cold weather.

EUROPEAN EAGLE OWL (*Bubo maximus*), found throughout the mountainous districts of Europe. Very large fine-looking birds, with large ear-tufts, feathered legs, and beautifully variegated and intricately plumaged plumage in shades of brown, black, and tawny, with a white patch under the chin. Their irides are orange. Their call is a deep, bell-like single hoot from the male, usually answered by his mate

with a double hoot pitched much higher. These Owls are very long lived if properly treated. They have been bred ; they are all the better for a fast day once a week ; quite hardy and very fond of bathing. They nest in a scrape prepared by the male, the clutch consists of two large round white eggs ; incubation lasts four weeks. The young have no intermediate plumage.

THE VIRGINIAN EAGLE OWL (*B. virginianus* and *B. articus*), from South and North America, which are smaller and differ slightly together with *B. ascalephus* from North Africa, are generally imported, as are also the following : *B. bengalensis*, from India ; *B. capensis*, from South Africa ; *B. cinerescens*, from West and East Africa ; *B. lacteus* from South Africa ; *B. blakistoni*, from Japan.

THE SPOTTED EAGLE OWL (*Bubo maculatus*), from South Africa, is the smallest Eagle Owl ; a handsome bird, particularly the form which is grey, thickly spotted all over with black. There is also a brown variety, in which the spots are not as plentiful nor so distinct looking. The ear tufts are short and broad, beak strong and black, eyes bright buttercup yellow, legs covered with grey down, claws black. Quite hardy, it is not very particular as to diet and not a very large feeder. It nests in a scrape on the ground, and lays two eggs to the clutch. Its note is a soft hoot, almost a coo. It is fond of bathing.

FRASER'S EAGLE OWL (*Bubo pænsis*), from West Africa. A very beautiful and distinct species, not often imported. In the intermediate stage has a white downy head and breast, the back fawn colour mixed with white, and black barred shoulders. Wing-coverts fawn. The flights and tail yellow-barred black. Adult plumage : Head, wings, tail, and back tawny yellow, barred with black, long ear-tufts of the same ; breast white, finely barred with black ; legs the same ; claws white ; eyes large and full, deep soft black, fringed with very long lashes. Length when full-grown about 17 to 20 inches. It is not very hardy, and requires a sheltered aviary with protection from cold in winter. Its diet should consist of rabbits, young rats, mice, etc. It is very fond of bathing. If kindly treated it becomes very tame, and fond of its owner, but is capable of strong and lasting dislikes, and is jealous of other birds. It likes to have its head scratched like a Parrot. The two white eggs are laid in a scrape on the ground. Among sand or dried





Photo D. Seth Smith

FRASER'S EAGLE-OWL
(*Bubo poensis*)

ss a sitting bird would be practically invisible. The call is a rather ble hoot.

THE SCOPS (*Otus*) are miniature Eagle Owls, possessing longer wings. They are charming little birds, with beautiful plumage shading into every tone of brown, grey, and black, and are easily kept and bred in confinement. They are largely insectivorous. They are found all over the world, save in Oceania. The plumage of many species varies between individuals.

THE COMMON SCOPS (*Otus scops*), native of Europe, is too well known to need description. It is enough to say that owing to its small size and docility it is a favourite cage bird. We have only space to enumerate the various species of Scops which figure from time to time in our aviaries : *O. pennatus*, from India ; *O. semitorques*, from Japan ; *O. bakkamæna*, from India, and its varieties *lettia*, from China, and *apiji*, from Indo-China and the Malay States ; *O. asio*, from North America.

WHITE-EARED AFRICAN SCOPS (*O. leucotis*). These beautiful little birds are not quite hardy and cannot stand damp cold, but thrive perfectly in an enclosed unheated aviary. They are about the size of a Song Thrush, have large faces, white cheeks, and grey beaks very thickly covered with long white hair, hiding the nostrils ; crown of the head grey speckled and vermiculated with black and a black outline round the face. The eyes are large, glowing copper. The breast is streaked grey on white, legs white, feet large, lead coloured, back and wings streaked and mottled grey and black. The general effect is singularly beautiful and rich. They have the curious habit of bowing rapidly many times in succession while uttering a continuous husky chattering sound, this appears to denote pleasure, and is used to greet friends, the offer of food, or merely in answer to a word in passing. The breeding call is a soft grunting coo, and the anger note a savage growl. They spend most of the day dozing on a high perch, and if disturbed open their wonderful eyes to the fullest extent and lunge forward at the enemy with open beaks, at the same time swearing like an angry cat. It can easily be guessed that a squirrel or any other enemy coming suddenly upon them in a tree would get the fright of its life when confronted with such threatening gestures.

Probably they nest in a state of nature on a lofty tree whose top has been blown off, but in my aviary they adopted an enamelled iron pie-dish filled with sawdust, laid two eggs, one of which proved addled and reared a young bird. Incubation lasted a month, during which the male collected and carried food to his mate. When the young hatched the hen was very fierce, and flew straight for my face when I fed her. The nestling was covered with greyish white down, and remained in the dish for four weeks, by which time it was well feathered. Its call for food was a low hissing croak, and it did not bow like its parents until after it could feed itself and was quite independent. Its plumage was like its mother's; the cheeks were grey instead of white, the back darker and breast greyer. The ear-tufts did not show until it was quite well feathered everywhere else.

These Scops never bathe nor apparently do they drink. I have never seen them dust, but they are always snowy white and speckless. Like all of that genus they are enormous feeders, and cannot fast like other Owls. They cannot digest rats or very old rabbit, are fond of birds and mice, which last they usually swallow whole, and field voles, also young kittens. They are not often imported.

CYPREAN SCOPS (*O. cypreus*). These lovely little birds are peculiar to Cyprus, and are strictly protected. My pair were hand-reared and brought over by the late Major Horsburgh; I have never heard of any others being imported. Their plumage is full and very soft, all shades of soft grey, beautifully mingled until they look like a piece of lichen on bark; eyes black. They are tiny creatures. My pair were very tame and accustomed to be hand fed; they had very large appetites, were particularly fond of mealworms and cockchafer-grubs, and would gulp down seven or eight full-grown ones at a meal—no small feat for such tiny birds. They also had mice, Sparrows, or chopped-up rabbit, but preferred the two former. They proved fairly hardy, and came safely through the winter in a sheltered aviary with a box to retire into in bad weather. They were very silent, but occasionally uttered a low croak when hungry. They bathed occasionally.

THE WOOD OWLS (*Asio*) are of medium size, have well-developed facial disks, and long ear-tufts.

THE LONG-EARED OWL (*Asio otus*). This very handsome bird is

common in fir-woods in England. It is rather smaller than the Hairy Owl, and more elegantly shaped. Its face is round and unadorned, with two long erect ear-tufts. The eyes are orange. The ground colour of its plumage is brown, but it is beautifully streaked and mottled in the most protective style, so that when it sits motionless pressed close up against a fir-tree trunk with its eyes closed it is exceedingly difficult to discern even if the observer is looking directly at it. It nests in hollow trees ; there are usually two young in a brood. It hunts chiefly by night, and is a friend to the farmer, since it destroys great many mice and rats. It is vociferous, and has a variety of notes, screams, mews, and other noises. It does well in confinement.

THE SHORT-EARED OWL (*A. accipitrinus*) is another European species, it frequents marshes and moors, and nests on the ground. It is slightly larger than the above, and carries short thick ear-tufts. The plumage is rusty brown, mottled with dark brown. Eyes yellow. It endures confinement well.

THE BRAZILIAN LONG-EARED OWL (*Asio clamator*) has only lately been imported. It is larger than the English kind, and very handsome. Probably it has much the same habits in its natural state ; in confinement it is fairly docile and lives well ; is fond of bathing. Is drowsy by day, and usually feeds at dusk ; is fond of rats, mice, and birds, but will eat rabbit. The back and long wings, which project beyond the tail, are yellowish brown mottled and vermiculated with pale black. The belly rather bright buff, also the legs and feathered feet ; toes long and slender, claws black. The breast is yellowish, with a large dark centre to each feather. When young the facial markings are very striking ; the head is buff, bright chestnut, with a faint black spot just over the eyes ; cheeks darker, but still bright chestnut ; a broad white stripe forms a St. Andrew's Cross between the eyes down to the black beak ; chin white, with a few black spots ; the whole enclosed by a thin black line ; ear-tufts very long ; eyes black. In voice and habits it is very much like the English Long-eared Owl. Is quite hardy, and thrives on the same food.

THE BRAZILIAN SHORT-EARED OWL (*Asio stygius*), from Brazil, is rarely imported. It is an exceptionally beautiful bird of very elegant shape, the size is about the same as a Barn Owl. Its colour is golden-

brown, with a dark centre to each feather. Ear-tufts short and thick, face very round, eyes black with a bright golden ring. Mine was a greedy rather lazy bird, and was all the better for a weekly fast. It bathed occasionally, and was crepuscular in its habits. Its call was a sharp rather melodious "wow", several times repeated. It never became really tame.

A. grammicus, a closely allied species, has been brought over.

THE AFRICAN SWAMP OWL (*Asio nisus*), from North Africa and South Spain. Quite a number were imported by the late Mr. Hamlyn in 1921. They varied very much in character; a female which I bought has never become at all tame or tractable, but a young male was as tame as any bird in my collection, and very playful. It is dark chocolate brown, with dark brown eyes. Some have short ear-tufts, which usually lie flat but can be erected. The beak and claws are black. It is quite hardy and lives well on rabbit with an occasional bird or mouse. The note is a harsh loud squawk or bark, frequently repeated. It is crepuscular.

THE FISHING EAGLE OWLS (*Ketupa*), with long ear-tufts, are to be found in Asia and the adjacent islands. They may be known by their long and very powerful, almost bare, legs. They live near watercourses and feed on fish, but in captivity they will thrive on meat, and are long-lived.

From time to time *K. ceylonensis* has been imported. It is found from Palestine to Indo-China; also *K. ketupa* indigenous to the Malay Peninsula and the Soudan Isles.

The *Scotopelia* only differ from the above in not having ear-tufts. They are natives of Africa. *S. peli* and *S. oustaleti* have been imported.

The birds of the genus *Huhua* differ from those of *Bubo* in having transverse stripes across their breasts. They are very handsome, and four species have been imported. *H. shelleyi* from the Gold Coast; *H. nipalensis* from the Himalayas; *H. orientalis* from Malay; and *H. pænsis* from West Africa.

THE SNOWY OWL (*Nyctea nyctea*) is a magnificent Arctic Eagle Owl without ear-tufts, having white plumage when full adult, and more or less streaked and spotted with ashy brown while immature. It inhabits the Arctic regions and the Himalayas. It is sometimes met



Photo D. Seth Sm

NEPALESE EAGLE-OWL
(*Huhua nepalensis*)

th in the temperate zone during severe winters. It does well in captivity, and has been bred, but needs care.

THE SPECTACLED OWL (*Pulsatrix perspicillata*), from South America, also known as the Downy Owl, and is a very distinct and handsome species. It is perhaps the most easily tamed of all Owls, being very fond of having its head and neck scratched like a Parrot. This charming bird is larger than the Tawny Owl, has a black face with white "spectacles" round the bright yellow eyes, and a white beak thickly fringed with hair. The top of the head and back are brownish black, and wings brownish black faintly barred with grey; breast, belly, and legs bright tan, claws black. It has a faint white half-circle round the front of the throat. Perfectly hardy and easily kept in health, and of bathing. Nests in hollow trees. The call of the male in the breeding season is a kind of rattle, rather like a miniature machine-gun, at other times a gruff sort of growl, and a gentle twitter when meeting its friends.

Young birds have the top of the head white and a black mask over the face, the breast much paler, and the back and wings brownish faintly barred. They should be fed like the foregoing. All too rarely imported. Anyone fortunate enough to own one of these delightful birds should house it where it can enjoy human society, as it soon opens when it is left to itself.

The genera *Ninox* and *Sceloglaux* form a group of small Owls which are probably widely spread over Asia and Oceania. They do very well in confinement, and some of them, especially the Australian species, have been imported from time to time.

THE MARBLED OWL (*Ninox ocellata*), from West Australia, is now very rarely imported. It is a pretty little bird, about the same size as the Little Owl, gentle and confiding in an aviary. The plumage is soft and very soft, general colour dusky brown, breast lighter, and streaked with warm brown. The wing-coverts and the scapulars are "marbled" with round white spots; the eyes are greyish but sometimes when the light catches the pupils they look as red as rubies. A dark patch just behind the eyes adds very much to their beauty. They are fond of cockchafers and mealworms, and will pick up and eat large smooth-skinned caterpillars and those large brown spiders which live

among rubbish. They nest in hollows and lay three to four rather large white eggs. Their call is a double hoot, which sounds very much like a Cuckoo gone flat. They are great bathers, and should be fed like the Tawny Owls with the addition of insects when obtainable. My cock bird is 17 years old this summer.

As far as I know, the other species hitherto imported are *N. booboe* and *N. connivens*, from Australia ; *N. novæ zeelandiæ* and *Sceloglaux albifacies* from New Zealand.

THE TAWNY OWL (*Strix aluco*) is a widely spread, very well-known bird commonly distributed throughout England and Europe. It is round-headed, the plumage very full and soft. Its colouring is shades of brown and tawny, breast paler, all finely mottled and vermiculated. On the wings a series of large, cream-coloured, or white spots. Eyes black, beak greyish or horn-coloured, legs feathered with grey down. Call a loud ringing hoot several times repeated, and a sharp "kiwick kiwick". A fine, strongly flying bird, which hunts chiefly by night. Hand-reared specimens become very tame, and can be allowed the liberty at night, returning to their aviary for the day. They nest in hollow trees or in barrel-shaped boxes, have from two to four young in a brood, and nest twice in the year. They are great bathers, and perfectly hardy. Their food in confinement should be fur or feather, but they are not dainty.

SHARPE'S WOOD OWL (*Strix nuchale*), from West Africa. Another very handsome species, a typical Wood Owl, round headed, with black eyes and cinnamon coloured plumage. Its habits and requirements are similar to the Tawny Owl. It is not often imported, but appears to be quite hardy and becomes very tame. It is a size larger than the Tawny Owl.

S. woodfordi, an allied species from East Africa, has also been imported, as have the following : *S. uralensis*, from Siberia and Russia ; *S. nebulosa*, Central North America ; *S. seloputo*, India, China, and Malay ; *S. indrani*, India ; *S. lapponica*, from South America ; and *Ciccaba virgata*, Central America.

Besides these, the following have lived in confinement in Europe : *Gisella harrisi*, from Colombia ; *Nyctala tengmalmi*, Northern Europe and Asia ; *N. acadica*, N. America ; *Surnia ulula*, Europe ; and

paroch, from North America ; all handsome birds, having their plumage delicately marked with grey, brown, and white.

THE LITTLE OWL (*Athene noctua*). A common species on the Continent, was introduced into England by the late Lord Lilford, and has become naturalized. It is gradually spreading all over the country and has even risen to much controversy, many people considering it a dangerous pest, others protesting that it destroys more vermin than game, and should therefore be protected. It is a small bird, rather larger than a thrush, grey, thickly speckled with white ; its eyes are round and burning, rather pale yellow, eyelids white. It is very active, bobbing up and down in a ludicrous manner when it sees anyone approaching. It hunts by day and destroys a great many birds as well as mice and beetles. It nests in holes and there may be three or four eggs to the clutch. It has a variety of calls, ranging from chuckles to loud shrieks, interspersed with cat-like mewings. It has been bred in confinement. An allied species from India (*A. bramah*) has likewise been imported.

BURROWING OWLS (*Speotyto cunicularia*), South America, are occasionally imported and make amusing pets. Their habits are well known from many illustrations and articles. In America they share burrows with "Prairie Dogs" and (possibly) rattle-snakes, and bob up and down excitedly at the approach of a stranger. They are about the size of *Athene noctua*, but stand higher, being longer in the leg. Their heads and backs are speckled brown, the wings brown barred with white, as is also the tail. Under parts and legs pure snowy white, in spite of their burrowing habits. The young have brown heads without any markings. The eyes are bright yellow, beak pale. Their call is a harsh croak, but if disturbed or alarmed they spread their wings and screech loudly for several minutes on end. They also "swear", which sounds like a tap being suddenly turned on. They run very swiftly. My pair constructed a burrow in their aviary but did not go to any great depth, and the soil fell in several times until I put a drain-pipe inside the burrow. They worked hard at deepening and enlarging it, and finally started nesting. To my regret the hen died egg-bound with her third egg. The cock lived many years longer, but I was unable to get another mate for him. They are quite hardy, and do well on rabbit and other fur and feather. None have recently been imported

to my knowledge. They have been bred in confinement. An allied species inhabiting California and Central America (*S. hypogæa*) has been imported.

THE SPARROW OWLS (*Glaucidium*) are tiny birds scarcely larger than a Sparrow.

THE PASSERINE OWL (*G. passerinum*). Mountains of Europe, particularly Switzerland. They have no ear-tufts and are much more diurnal and active than the somewhat lethargic Scops. They are great bathers, very quick in all their movements, eaten up with curiosity and interested in all that goes on. They have rather long tails, which they wag from side to side, while they bob up and down with excited chirps. Their eyes are light yellow, head and back dark brown thickly speckled with lighter spots and marks, wings brown with a reddish tinge on the flights, with paler bars, tail the same; the feet are heavily feathered, claws black. The eyes are ringed with pale grey and the eye brows and facial disk are white, as is the beak. Breast light grey, with dark streaks. They need a good deal of exercise, and should be given a larger aviary than their diminutive size would indicate. They are hardy in the South of England. They should have Sparrows and mice.

MEXICAN PIGMY OWL (*G. fisheri*), habitat Mexico. About the same size as the last, and with much the same habits and colouring but closer feathered. A bold, fierce little creature with bright yellow eyes. On the back of the head, which is brown with small speckles, has a curious grey-brown crescent-shaped mark. The unpaired male during the breeding season utters a metallic clinking cry, like the sound of a hammer on metal, nine or ten times repeated. It was very rarely imported, but last year several pairs came over. Mine went to nest in a wooden nest-box, and sat steadily for four weeks, but either the eggs were clear or went bad, as they did not hatch and the birds did away with them when they had sat their full time. Food and treatment should be the same as for the Sparrow Owls.

JARDINES' PIGMY OWL (*G. jardini*), Venezuela and Colombia. This bird also much resembles the last named, but the colour of the wings and tail is more rufous. It requires the same treatment and food. Mine went to nest in a small box and reared two young, a third vanishing when about two days' old. The nestlings are tiny creatures, covered





J. PH

BARN-OWLS
(*Tyto alba*)

th snowy white down, and unlike their parents are very clamorous. The first few days of their existence mine were continually brooded by their mother, but afterwards could plainly be seen beside her in the box. They were fed on mice and Sparrows. When fledged the young are better copies of their parents, the white less pure, and the brown not so warm in tint. Their call is a little trilling twitter. Both of mine have now grown up.

Besides the above, the following species have been imported: *Phalænoides*, from Trinidad, and *G. perlatum*, from South Africa.

Photodilus badius, which inhabits the Himalayas, is a small brown owl, which forms a link between the preceding groups and the Barn Owls. It has been brought over alive.

THE BARN OWLS (*Tyto*) differ from all other birds of prey in their anatomy. They chiefly inhabit barns, belfries, or caves in cliffs, and are exceedingly useful in destroying rats and mice. They are to be met with all over the world.

THE BARN OWL (*Tyto alba*) is a very beautiful bird, having yellowish-brown plumage mingled with silvery grey, and lightly marked with small black spots. The under parts and breast are snowy white. The facial disk is well developed, the eyes are black and deep-set; the beak is white and partly covered with a thick fringe of hair, legs rather long and black-kneed covered with white down, claws black. It is entirely nocturnal and therefore not very interesting in an aviary. It is a smaller, closer feathered bird than the Tawny. It nests in a barn or low tree, and it is not uncommon to find fresh eggs in the nest at the same time as young birds. Barn Owls do not bathe and appear not to drink often. They utter a loud screech and sometimes a hissing sound. They will eat rabbits, rats, and mice, etc., and are quite hardy. They have been bred in confinement. These are most useful birds to farmers and countrymen, as they destroy enormous numbers of rats and mice, and are too nocturnal to take chickens or young birds, which are all under cover by the time the Owls start hunting.

Other species which have been imported are: *T. pratincola*, North America; *T. delicatula*, Australia; *T. punctatissima*, Galapagos Islands; *T. capensis*, South Africa, and *T. arfaki*, from New Guinea.

SOME RARE MEXICAN BIRDS

By W. SHORE-BAILY

Some time last November Mr. J. Bruce Chapman, to whom aviculturists owe so much, for his enterprise in bringing over so many rare birds from all parts of the world, imported a fine consignment from the port of Vera Cruz in Mexico. Amongst these were about a dozen of the little Lark Sparrow (*Chondestes grammacus strigatus*), which I secured. This little bird has the upper parts brownish grey, streaked with blackish and the under parts white, the head prettily striped with grey, white, and chestnut. Its habitat is California and Western America, but it apparently finds its way also into Mexico, unless my birds should prove to be a sub-species resident there. Some of my specimens have the throat and breast washed with yellow. I noticed when I bought them that some of them had a small spot of yellow on the throat, and thought that these would be the males, but on dissection this has proved not to be the case. I have examined all the skins in the British Museum and none of them show any trace of yellow, and I cannot recollect ever having seen any with this marking in California where they were quite common. I am hoping to get them to breed this year, and may then be able to find out something more about them.

Another interesting bird was the Dickcissel (*Spiza americana*) or Black-throated Bunting. This is a pretty bird, and hardy. The upper parts are mixed grey, brown, and black; chin and throat white, with a black patch in centre; breast bright yellow. I secured two or three specimens, but I am afraid all males, and these are now in full song. This species was bred by Mr. Teschemaker a good many years ago.

In this consignment were quite a lot of Thrushes, of which I bought about a dozen. I found on getting them home that there were three different species, but it took some time to separate them, as they were in such rough condition, some of them being almost denuded of feathers through fighting. The most interesting was a Wood Thrush (*Hylocichla meistelina*). This little Thrush is very like our own bird but is not much more than half the size. It is a native of the U.S.A. migrating to Mexico in the winter. I think that my bird must be a hen, as it has made no attempt at singing yet. Another Thrush turned

to be *Turdus tristis*, a bird not unlike a hen Blackbird. It did not long. The other proved to be *Turdus flavipes*. These have the upper parts olivaceous brown, breast and abdomen greyish buff, throat white, chin striped with black; as the white on the throat extends down the stripes, it gives the bird the appearance of carrying a white collar, which makes it look not unlike our Ring Ouzel. It is impossible to sex the five birds that have survived, but I am hoping that I shall find a true pair amongst them.

Early in January Mr. Chapman had another important consignment of Mexican birds, amongst them being, I think, several species new to aviculture. The most interesting is the Rose-breasted Cardinal, a bird that I am inclined to think will be found to be a new species. These birds are about the same size as the Common Cardinal, but are totally unlike them in colour. They differ in having the crest buff, a patch on the cheeks buff, a patch under the black throat yellow, and the abdomen pink. About eighty came over, besides a lot of the Common Cardinals, including a good many hens, but as the latter had not been separated from each other, it was impossible to say to which of the two species these belonged. It has been suggested by some ornithologists that these birds are merely immature specimens of the Common Cardinal, but I cannot believe this, as this latter bird has bred on more than one occasion in this country and the young are said to be like the hen. It is my belief that the birds are adults, and this seems to be borne out by the fact that a bird imported last year has not changed colour. However, Mr. Chapman is taking steps to bring over some more of the females, and then we shall have a chance of breeding them and learning something more about them. In the meantime, they appear to be lacking a scientific name.¹ Another interesting importation was that of the Thick-billed Cardinal, and I secured a true pair of these. Their scientific name is *Pyrrhuloxia sinuata sinuata*. They appear to be very closely allied to the Cardinals. Their colour is dark grey, with buff crest and tail, under parts buffish pink or red, the hen not so bright in these parts. Their most curious feature is the beak, which is very short and thick, like that of the Bullfinch, hence one of the trivial

[¹ A coloured illustration of this "sport" of the Virginian Cardinal appeared in this Magazine for December, 1924.—ED.]

names—the Bullfinch Cardinal. This bird is found in Texas and Arizona as well as in Mexico, and its habits seem to be very similar to those of the Red Cardinal. They appear to have a rather peculiar body shape similar to what one finds in the Petrels. I do not know whether this has been previously noted. I also secured half a dozen specimens of the Californian Scarlet Tanager, which differs considerably from the common Scarlet Tanager, more usually seen in this country. The male has the back, shoulders, wings, and tail more or less striated with buffish yellow, head and throat crimson, under parts yellowish. Female olive green, under parts yellow, two bands of dirty white across the wings. This bird is common on the wooded slopes of the Sierras of California, and presumably migrates to Mexico, unless it is resident there also. I do not think that it has yet been bred here in captivity. Another purchase was a pair of small Hangnests (*Icterus spurius*), about the size of our Brambling. These are mostly black and yellow, but are not yet in full colour, so am unable to describe them. They appear to be good aviary birds, as they partake freely of Thrush food, and do not seem to require much fruit, so should be easy to care for. My last acquisition was a pair of small black and yellow Siskins (*Chrysomitris tristis*). They are most charming little birds, black on top and bright yellow underneath, with a white spectrum on the wing. I fear that they are rather delicate, but if they live shall hope to breed them.¹ I do not think that any of the birds mentioned in these notes have been bred here, so I am looking forward to an interesting season in my aviary this year.

Just as I had finished writing these notes I recollected one species that I had not mentioned, and that a not unimportant one, the Mexican Barred Partridge (*Philortyx fasciatus*). This is a small bird, about the size of the Scaly Quail (*Callipepla squamata*), and its habits appear similar, as it is fond of roosting in trees, like all the Crested Quails. I don't know whether I have secured a true pair, as the sexes appear to be alike. Time alone will show.

[¹ An excellent coloured plate of the American Siskin appeared in Vol. page 125 (June 1889).—Ed.]

LOVEBIRDS

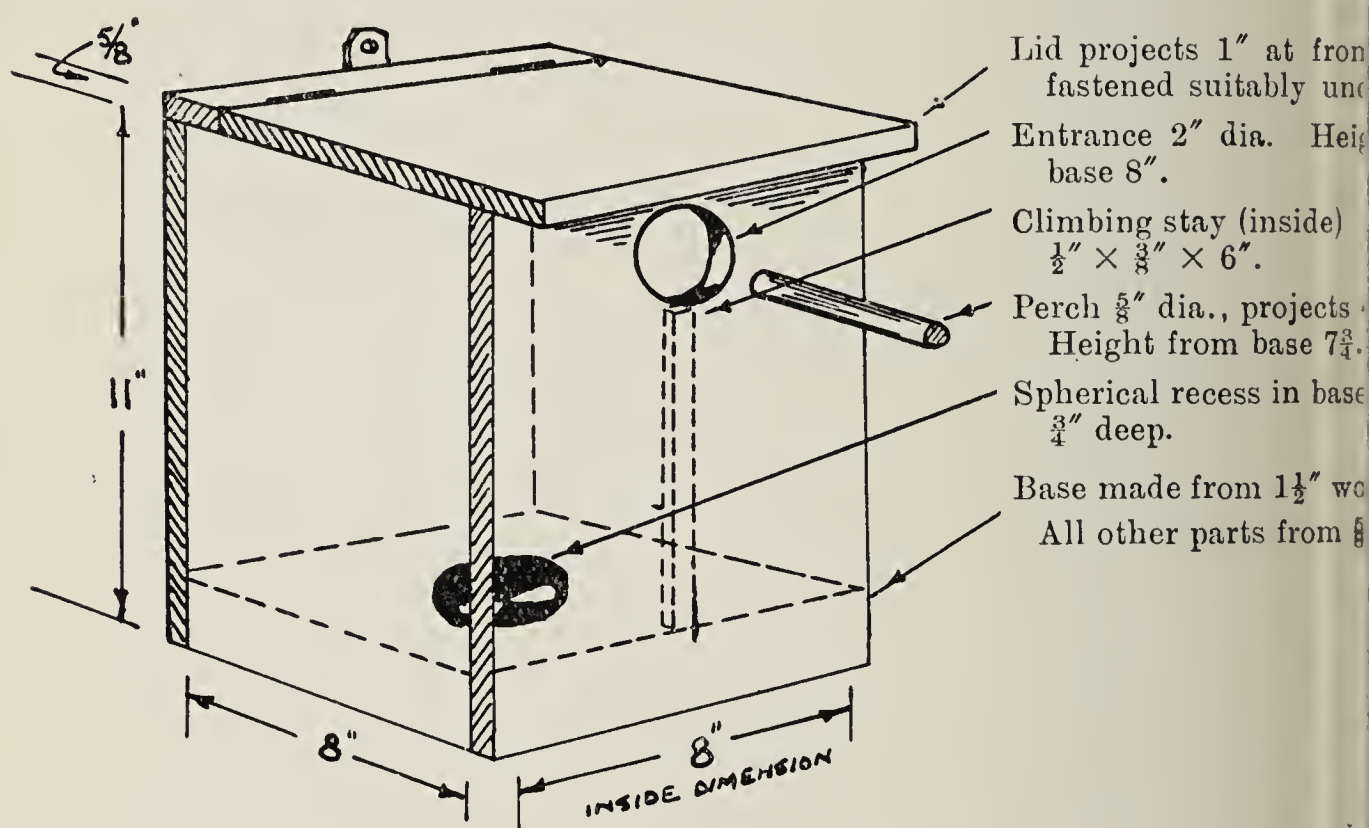
By Mrs. PRESTWICK

Now that the breeding season is once more upon us, some notes on the management and breeding of Lovebirds may not be out of place. The genus *Agapornis* belongs to the sub-family Palæornithinæ, and as far as is known at present consists of ten members: (1) the Madagascar Grey-headed (*A. cana*); (2) the Abyssinian (*A. taranta*); (3) the Red-faced (*A. pullaria*); (4) the Rosy-faced or Peach-faced (*A. nicollis*); (5) the Black-cheeked (*A. nigrigenis*); (6) the Nyasa (*A. nyasa*); (7) Fischer's (*A. fischeri*); (8) the Masked (*A. personata*); (9) Swinderen's (*A. swindereniana*); (10) the Black-collared (*A. zenkeri*).

The first six are all well known; Fischeri and the Masked are exceedingly rare and *swindereniana* and *zenkeri* have not yet reached this country alive. The genus is confined to the continent of Africa, and a few adjacent islands. Once acclimatized, they are all very hardy, and may be kept in unheated outdoor aviaries throughout the year with impunity, provided they have good, dry, draught-proof shelters. They are simple feeders, and no elaborate mixtures are needed; most are satisfied with canary seed and white millet, with the addition of a little of the sunflower and a few good oats, millet sprays, and seeding grasses are very acceptable; hemp should be avoided, except sparingly in cold weather, as it appears to make them fat and sluggish. Fruit of all kinds is despised by most, a few, however, will eat apple and pear in minute quantities; some will eat lettuce with apparent relish. When possible they should be kept in aviaries, as their chief charm lies in the fact that they climb and scramble about, besides which their full beauty is only seen when in flight. In cages they are apt to mope at their loss of liberty and become dull and listless, sitting side by side and taking very little interest in life in general, only moving to visit the seed and water-pots. If, however, no other accommodation is available, and it is desired to keep a pair of Lovebirds, possibly Red-faced are the most suitable, being the least active of the group; Mr. W. T. Catleugh has kept a hen of this species in a cage for nearly ten years, and several for over six years, so it will be seen that *pullaria* can be successfully kept

as a cage-bird. Given very little encouragement in the provision of nesting sites and receptacles, *cana*, *nigrigenis*, *roseicollis*, and *lilian* will all commence breeding operations and once started are almost as prolific as Budgerigars and as little trouble; the same cannot be said of *taranta* and *pullaria*, as the former has only been reared successfully on two or three occasions and there is no record of complete success with the latter. They readily take to coco-nut husks, but a nest-box is more suitable for sanitary reasons.

The various species of *Agapornis* agree together fairly well, provided there are no odd birds, and a few pairs of each make a most attractive



Nesting Box.

display. They are not to be trusted with smaller and weaker birds, having a passion for breaking the legs of any unfortunate they can get hold of. The various species will be dealt with in the order given at the head of this paper.

The nest-box illustrated is eminently suitable for Lovebirds, and will be found to meet all requirements. The spherical recess in the base can be omitted if desired, and is not really necessary, owing to the nest-building propensity of the group. It is as well, however, to construct the boxes with the recess, then when occasion arises they can be used for any of the smaller Parrakeets.

AGAPORNIS CANA

The Madagascar or Grey-headed Lovebird is probably the best known of the group, having been imported in enormous numbers for some years. No detailed description of this species is needed: it will suffice to say that the cock is distinguished from the hen in having the whole of the head, neck, and upper breast grey, and under wing-coverts black, whereas the hen has the head and under wing-coverts green. The first importation was in 1860, and a pair was on view at the London Zoological Gardens in that year. They are quite unsuitable for cage life and when thus kept, as a rule, crouch in a corner and utter harsh sounding notes whenever anyone approaches. In an aviary they remain very timid, and seldom get really tame. Madagascars are very spiteful with weaker birds, especially when thinking of nesting, the hens more so than the cocks. They associate well with Budgerigars and Passerine parrotlets, with only occasional sparring. They do best in an aviary by themselves, however, otherwise in mixed company, especially if they are at all crowded, they are liable to play at nesting. In the wild state they associate in large flocks, often as many as a hundred together, and sometimes do considerable damage to the rice crops. The nest is constructed in a hole in a tree, being completely lined with pliant strips of bark, carried under the upper tail-coverts; this method of carrying material is usually adopted in captivity, but some carry pieces of bark, splinters of wood, fragments of millet sprays and strips of leaves in their beaks. The hen alone usually cuts the bark, etc., and carries it to the nest, the cock meanwhile keeping guard. A nest-box similar to the one illustrated is usually accepted by this species, although some shun boxes of any kind, and lay their eggs anywhere but in the proper place. Mrs. Charrington had a pair some years ago that burrowed under a tub, containing a box-tree, in an aviary where they constructed a nest in the usual manner, on the ground; just a slight hollow filled with cuttings of leaf. The first nest contained clear eggs; they nested again, but with the same result. The eggs of Madagascars vary considerably in size, the average being 18·4 mm. by 13·8 mm., and the number from four to six or even more. Incubation seems to take nineteen to twenty days, the hen alone doing this, the cock feeding her. The cocks can be picked out in nesting plumage, as their heads are a mixture of greyish

green and green. On leaving the nest the young cocks have darker beaks than the parent birds, the hood is apparent, but not very defined. Fully adult plumage is donned at the first moult. The first to be successful in breeding this species in Great Britain was F. W. Oates, who had four young reared in 1900. In this case the hard-worked hen was deserted by the cock for a Passerine Parrotlet, but she managed to rear the brood alone nevertheless. Amongst others to be successful with this Lovebird may be mentioned the late Dr. Lovell Keays, the late Mr. Wesley T. Page, Mr. W. Shore-Baily, Dr. P. Gosse, and Mrs. F. G. Hedges. Aviary-bred birds are apt to be delicate, many suffering from a form of asthma. The Marquis of Tavistock states that "Madagascars breed freely at liberty, but in a state of freedom are liable to become paralysed in the legs". The reason for this is not known, as aviary birds do not suffer in this way. Madagascars may be left out all year with perfect safety, provided they are not allowed to roost in the open as they are susceptible to lung trouble.

(To be continued.)

NOTES FROM A LANCASHIRE AVIARY

By JOSEPH APPLEBY

That tropical and semi-tropical birds can be accustomed to our British climate is generally recognized. But as a rule there is some qualification attached to this statement, such as special accommodation or feeding, so perhaps an account of how some of the common and less expensive seed eaters have been wintered on this bleak south-west Lancashire coast, may be of interest to those readers of the AVICULTURAL MAGAZINE, who like myself, do not profess to be experts, nor wealthy enough to maintain large and elaborate aviaries.

My bird census on 15th September, 1926, was 64 birds of 22 species. All seed-eaters, such as Waxbills, Buntings, Finches, Canaries, Pekin Robins, Whydahs, Weavers, Siskins, etc., all reasonably priced birds that one might experiment with.

My census to-day, 30th March, 1927, is 56 birds, 24 species (I bought 6 birds in January, 4 Lavender Finches and 2 Avadavats, thus increasing the kinds by 2). The losses are 19 all species, 9 from pneumonia, 4 from

old age, and 6 from attacks by other birds, egg-binding or accident. During the six months I have bought 6 birds, the natural increase being 1, these are Silverbills and Zebra Finches, 3 and 2 respectively.

The conditions under which my birds are kept were described in the October, 1924, Vol. II, No. 10, AVICULTURAL MAGAZINE, but I might state that with the exception of an oil lamp kept burning during the months October to date in the shelter, the birds have had no other protection against the damp and cold of this last winter.

They are fed on a mixture of canary, hemp, white millet, Indian millet, sunflower and teazle, together with soft food made of Spratts and cod liver oil and softbill foods, to which is added maw seed.

They get unlimited supplies of greenstuff, mostly garden weeds, etc., and the floor of the flights are grassed.

They can sleep inside or out as they choose, for though the shelter window is lowered, it is never closed. Fire Finch, Siskin, Grey Singing Finch, Saffron Finch, Orange Weaver, and one pair Zebras have slept out all winter, and seem to prefer to do so, whatever the weather. The Javas, Whydahs, Nonpareil Buntings, and Cordon Bleus are more discriminating, and go indoors if the weather is stormy.

Pekin Robins, Canaries, Combassous, Silverbills, Lavenders, Waxbills, and Fire Finches prefer the warm bedroom.

I don't know if my losses from pneumonia are due to the change of temperature from outside to inside, but I don't think this is entirely the cause, for the shelter is seldom more than 50° F. and in frosty weather has fallen to 40°. I rather put them down to the fog and damp we get so much of here, along with cold damp winds. The losses from old age are all liable to, for we can seldom tell the age of an adult bird when bought. I generally look at the length of the upper mandible, and the state of the tarsus, but this method is not infallible. All these four birds were in splendid plumage and condition.

The murders and accidents were preventable. A Green Singing Finch cock was responsible for three; he wiped out the Siskin family, father and two sons, and himself died of fright when I caught him after the event. The other two were egg-binding, which I should have seen to earlier. The moulting times are the critical ones so far as I can see, and if we can get our birds through without loss, we have

our reward in perfect plumage and greater resistive power. For instance a cock Cordon Bleu which I have had three years is much more brilliant in colour and thicker in the feathers than others I have had only one year. The same applies to one of my Nonpareil cocks, he is much brighter now than when I first received him. I wonder if anyone can tell me when a Nonpareil cock gets his adult plumage. I have a bird, bought as a hen, now showing unmistakable male colour. This bird I have had two years, bought in July, 1925.

The Pekin Robins are in excellent fettle, and are busy with domestic duties, as are some of the others.

A cock Combassou gives the Whydahs a very anxious time ; he will not allow them to feed at the same time as he and his wives, and though, of course, they are much heavier birds, he goes for them like a terrier ; with this exception, since the Green Singing Finch cock deceased, the inhabitants of the aviary get on well together.

CORRESPONDENCE

PUBLIC AVIARIES

SIR,—Cannot the Avicultural Society do something to improve the conditions and management of Public Aviaries. At a few aviaries I have visited in the north of England there was a deplorable lack of interest shown by those responsible for the stocking and management of these aviaries. A man is put in charge of an aviary who knows nothing about birds and he has to take instructions from Town Councillors who know less.

At one place I saw Pheasants being kept in a glass house in which were Parrots and monkeys. A Silver Pheasant hen was laid on the floor and had lost the use of its legs. I asked the keeper why it was allowed to live in that state, and he told me that he could not do anything without instructions from the Borough Engineer.

At a seaside place I visited they have some ideal aviaries with running water in. In one of the aviaries were a few Canaries and a Golden Pheasant cock in a dilapidated state. In another was a Silver cock too fat to walk with a pure-bred Amherst Pheasant hen, a rather scarce and valuable bird to be wasted.

Even what is supposed to be a Lancashire Zoological Garden has no Grey Pheasants, the only one I saw being a Ring-neck, which seemed to be in the last stages of consumption.

In my opinion it is the duty of every member of this society to offer advice and help to the councils who own public aviaries.

In two cases my advice has been accepted and an improvement taken place.

There must be aviaries in other parts of England where advice is needed. I think a list of all public aviaries should be published in the Magazine and reports sent in by members of the birds kept and their conditions. It cannot be any help to aviculture to have birds shown under such wretched conditions.

An official letter from this Magazine suggesting that some member living near would be pleased to give advice, would do an immense amount of good.

G. BEEVER.

PASSERINE PARROTTLETS

SIR,—Will some member kindly give a novice some information as to the keeping of Blue-winged Lovebirds in a cage? An article in the Magazine some time ago said it was cruel to keep this species shut up. Would that apply to two box-cages put together, each 24 by 18 inches high. Would it be best to keep to the Finch tribe? They would go into a small covered aviary for the summer months, as they are chiefly kept as house pets. Any information would be gratefully received.

M. E. KERSHAW.

[There is no cruelty in keeping these birds in cages, provided that the cages are not too small, and the accommodation suggested above would be ample.—ED.]

THE TYRANNY OF THE OWL

SIR,—This country of old elm-trees is much favoured by Tawny Owls, and a pair nests each year just outside my garden. These birds harry the nests of their weaker neighbours, and most of the early hatched Thrushes and Blackbirds fall victims.

For the past two seasons several kinds of birds which usually nest in the open have built in the climbing plants on the house wall. Besides Flycatchers and Robins, several Thrushes and Blackbirds now nest close under the eaves; and last year, a Goldfinch built in the wistaria close to a bedroom window.

Already this spring, a Thrush and a Blackbird have tucked their nests under the low eaves of the well-house, which adjoins a back door.

Their object seems to be to have cover above them and to be near a frequented path.

At one time the house gave shelter to the following nests: Sparrow, Starling, House Martin, Blackbird, Thrush, Robin, Wren, Flycatcher, Goldfinch, and Cole-Tit. (The last appropriately in the coal-house wall.)

The giant elm, which houses the Owls, provides homes for Jackdaws and Stock-doves.

Strangely enough, the Pigeons more than hold their own against the Daws. I have seen several battles between them, and the Stock-doves have always been victors.

B. C. THOMASSET.

NOTES FROM M. DECOUX'S COLLECTION

SIR,—In the November issue of the Magazine, Mr. F. R. CHAMBERLAIN asked whether the Prince Lucian Conure had been bred in captivity. It has been many times in France, as Delacour has written in his article on Conures. I saw a brood of this species in Madame Lécallier's aviaries, about 1918 and later. (See *L'Oiseau*, 1920, p. 31.) I myself possessed a pair of the young bred by Madame Lécallier; they had laid several times, but the young were never reared to maturity, like those of the other species, because the parents were troubled by other large birds, which lived in their aviary (Glossy Starlings, Jays, etc.).

Last winter I received, among other birds, a fine pair of *Chalcomia senegalensis*, now in fine condition, and a pair of *Hedydipna platurus* but the cock died and I have only the hen left. I have just received from Senegambia some Masked Fire Finches, a young *Zonogaster citreus*, and an albino Fire Finch; this bird is completely white, except on the tail, which is tinged with brown, and on the lores and cheeks which are of a delicate pink colour.

J. DECOUX.

THE THICK-BILLED PARROT

SIR,—Since writing my article I have heard from Mr. Mann, curator of birds in the National Zoological Park at Washington; he says the bird may be considered very unusual in captivity and none too common in wild state. It is represented in their collection. The dealers from the far west do not know the bird.

I have never seen a parrot more affectionate or playful than this with my young son, aged 7. He is restless or noisy until Warren sleeps, when he utters sounds which most certainly express affection. Fortunately he does not talk, but the various sounds he makes are amusing. He delights in crawling all over the boy, snuggling in his arms and kissing him on the mouth (when permitted). He follows him about like a dog, with a queer shuffling gait, and shaking his tail from side to side.

The plumage since his moult is beautiful, and of a rich mossy green above, and the red variations are brilliant. When the wings are spread, the yellow area is quite conspicuous. I do not think the bird can fly properly, as when he flaps his wings one does not open as fully as the other, and there is no suggestion of deformity when the wings are closed.

I should like to sell the bird, as the family will be away the greater part of the summer, and I have other plans for the fall. I am offering it for £40. Mr. Metzger of this city, also a member of the Aviculture Society, is the only one I can give as a reference relative to the bird. My identification is based on a comparison with the mounted specimen in the Field Museum here, and from the detailed description in Ridgway's *Birds of North and Middle America*.

Should you know of anyone who might be interested in this purchase, I think I can arrange with Mr. Crandall of the New York Zoological Society in forwarding it to London from New York.

KARL PLATH.

The above letter was not intended for publication, but is printed here as it contains some interesting observations on a very uncommon bird.—ED.]

A CHECKLIST OF AUSTRALIAN BIRDS

SIR,—The Council of the Royal Australasian Ornithologists' Union is desirous of specially bringing under the notice of its members the new Checklist of the Birds of Australia, published last year. It represents the untiring efforts of a committee during a period of about 10 years. In addition to the scientific and vernacular names of the birds, it gives direct references to the work of Gould, Mathews, and others, states the range of each species, supplies lists of synonyms, and is furnished with a very complete index. It also contains a lengthy article by Mr. Wolstenholme on the derivations and pronunciations of the scientific names, which adds greatly to the value and interest of the List.

Owing to the great amount of matter and the numerous references in the list contains and the high cost of printing, production of the List has involved an expenditure of more than £400, and therefore it could not be made a part of, or supplement to the *Emu*. The price of the List has been fixed at 12s. 6d., and each member of the Union is requested to purchase a copy in order to meet the cost of printing. A copy will be sent forthwith to any member who forwards 12s. 6d.

D. DICKISON

376 FLINDERS STREET,
MELBOURNE.

NOTES FROM KESWICK HALL

SIR,—I have just returned from six weeks spent in the Canary Islands, which are an Earthly Paradise for an ornithologist; possibly at some later date I may write an account of the birds there, as they are of the very greatest interest. But this note is merely to record the death, while I have been abroad, of my Indian Adjutant under rather unusual circumstances. He withstood the cold of a Norfolk winter remarkably well, being out almost every day, walking about in a large yard, which was also tenanted by a pair of Vulturine Guinea-fowls. Although perfectly friendly with *one* of the Guinea-fowls, the Adjutant had always looked with hatred on the other one, and at the last opportunity was quite ready to seize it, which on two occasions it did, though the Guinea-fowl managed to escape with not much more than

shaking. I suppose it was very stupid of me not to have removed them, but I thought they would be able to take care of themselves as they had plenty of room. However, while I was away a tragedy happened! The Stork seized the hated Vulturine, and killed it, and then swallowed quantities of its feathers, so much so that they apparently formed a kind of wad inside him, and he was not able to digest his own food of rats and fish, though continuing to feed as greedily as ever. My man tells me that for a week after he had killed the Guinea-fowl, he kept on feeding, the undigested meat inside him swelling horribly, but eventually it killed him. A real loss, as he was such an entertaining bird, and a loss which could easily have been avoided. The weather here is dreadfully damp and cold at present (14th April), still Giant Kingfishers have eggs, and Alpine Choughs are busy carrying vast quantities of nesting materials into a barrel, while Crested Australian Doves have already reared one brood. The Black Rheas are booming loudly, much earlier than usual.

G. H. GURNEY.

ASPIDISTRA FOR WEAVERS

SIR,—At last I have discovered a use for the aspidistra, that bane of the middle-class parlour. I don't know whether the majority of bird-lovers know that all the large weavers of the genus *Hyphantornis*, *Tagra*, etc., only build their nests of long strips of palm leaves, etc., which they tear from the tree. They cut a small incision at the base of the leaf, then holding a piece of the leaf above the cut firmly in their beaks they fly away, thus tearing a long narrow strip from the leaf. With this they make their wonderful hanging nests. Dry grass, leaves, etc., are never used, being far too brittle, the green leaf being pliable and yet very tough. In captivity the birds use hay, etc., but they never use this very readily, neither do they build nests as perfect as when in the wild state.

One day I put several aspidistra plants into an aviary containing some rare Weavers that I had had for a year or more, and, though the birds had been in a large outdoor aviary all the summer, they had

made no attempt at nest-building, except to weave hay into the wire netting; but upon getting the plants they at once commenced to cut up the leaves and in a few days time had made perfect nests, and I am hoping that they will shortly breed.

SYDNEY PORTER.

THE SULPHURY TYRANT

As Jack-of-all-trades Kiskadee
Quite long ago got his degree
From Darwin and from Hudson too,
Who wrote as no men else could do.
And if he favoured politics
He'd thrive by all the trimmer's tricks,
For though he mocks the bitter shriek
Of bourgeois bled by Bolshevik,
He hides a crest like gold to see
And shouts for slogan "Pedigree!"

FRANK FINN.

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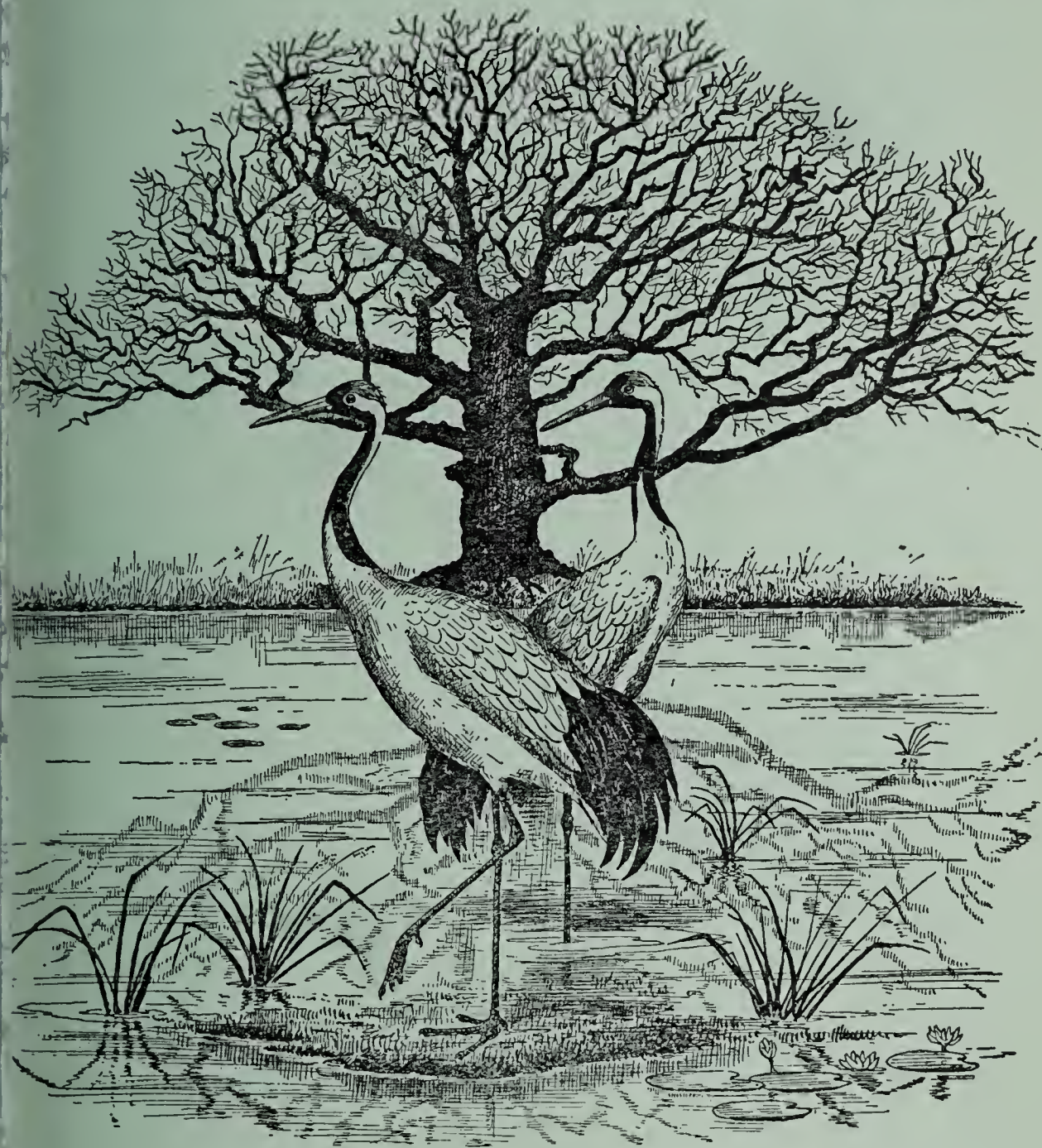
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THE Avicultural Magazine



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THE AVICULTURAL SOCIETY.

FOUNDED 1894.

NOTICE TO MEMBERS

The Subscription to the Avicultural Society is £1 per annum, due on the 1st of January in each year, and is payable in advance. The entrance fee is 10/6. The *Avicultural Magazine* is sent free to members monthly. Members joining at any time during the year are entitled to the back numbers for the current year, on the payment of entrance fee and subscription.

ALL SUBSCRIPTIONS SHOULD BE SENT TO THE HONORARY SECRETARY AND TREASURER, MISS KNOBEL, 32 Tavistock Square, London, W.C.1.

All Queries respecting Birds (except post-mortem cases) and all other correspondence should be sent to the Hon. Secretary, at the above address.
Any change of address should be notified to her.

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Rule 1.—A short account of the illness should accompany the specimen. All birds to be sent as fresh as possible to Mr. C. H. HICKS, The Prosectorium, The Zoological Society of London, Regent's Park, London, N.W. 8.

Rule 2.—Should any member require an immediate reply, a stamped addressed envelope must be enclosed with the bird.

Rule 3.—No body or skin of any bird will be returned under any circumstances whatever.

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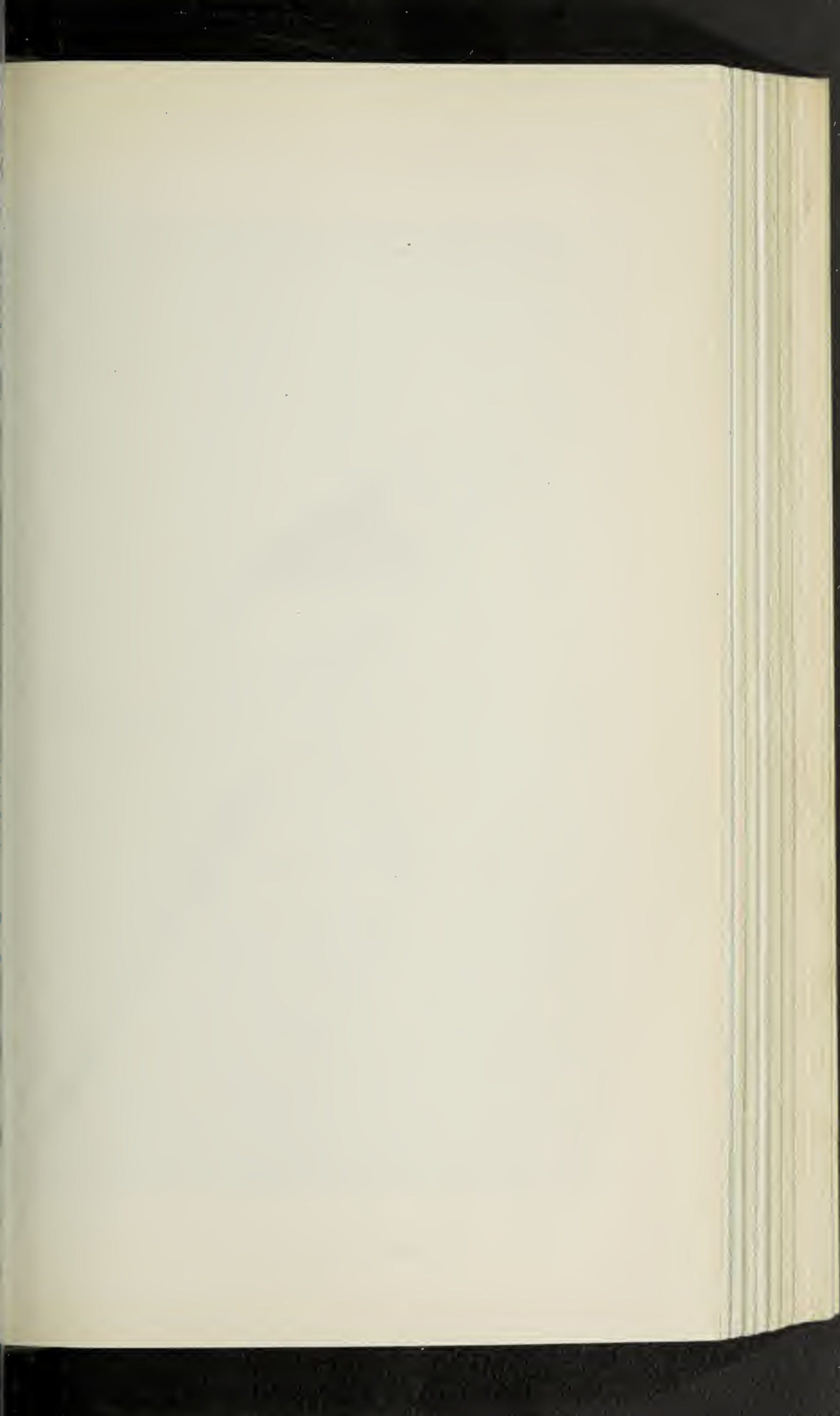
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Barnardius crommelinæ Mathews.

THE AVICULTURAL MAGAZINE

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FOR THE STUDY OF
FOREIGN & BRITISH BIRDS
IN FREEDOM & CAPTIVITY

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JUNE, 1927.

A NEW RACE OF BARNARD'S PARRAKEET (*BARNARDIUS CROMMELINÆ*)

By the MARQUESS OF TAVISTOCK

The plate of a new race of Barnard's Parrakeet which Mr. G. Mathews has named after my wife, *Barnardius crommelinæ*, has been taken from a female bird imported by Mr. Frost some years ago and at present living in my collection. The locality where it was captured appears unknown.

Barnardius crommelinæ differs from the ordinary form in its wholly green breast. There is only a small patch of yellow on each side of the neck in place of the almost complete half-collar and the general shade of the plumage is a very pronounced blue-green.

[The following note on this bird, by Mr. Gregory M. Mathews, appeared in the *Bulletin of the British Ornithologists' Club* of 4th November, 1925 (vol. xlv, p. 21):—

“While inspecting the aviaries of the Marquess of Tavistock, I was struck by the appearance of a *Barnardius* somewhat like *Barnardius barnardii* Vigors and Horsfield, but noticeably without the yellow band on the lower breast—which, in my opinion, is a new species.

“It is as large as *barnardii* and richly coloured, with an abundance of blue, the cheeks being only less blue than in *whitei*; entire breast

blue-green ; the yellow collar only faintly indicated by a small yellow patch on each side of the neck ; crown of the head pale green ; a dark V-shaped mark of dull blue-green at the back of the head ; red frontal band well developed. The bird is an adult female.

“ *Locality* : Australia (?).

“ I propose to call it

Barnardius crommelinæ, sp. nov.,
in honour of Lady Tavistock.”]

ARRIVAL OF THE MASKED LOVEBIRD

Mr. Chapman is to be congratulated on having at length succeeded in importing several pairs of the very fine Masked Lovebird (*Agapornis personata*) from Tanganyika Territory. It is perhaps the most striking of the group, and, so far as I am aware, has never previously been offered for sale in this country, if indeed in Europe. The only specimens that have previously reached this country were three that Mr. Painter brought through London on his way to the United States in 1925 as recorded in this journal for June of that year.

This species, in which the sexes are alike in colour, has the face blackish brown, a very broad collar on the nape and breast of yellow, the upper breast reddish orange, the wings, back and under parts green, and the upper tail-coverts ultramarine blue. The bill is bright red and there is a conspicuous ring of whitish skin round the eye.

Mr. Painter had no difficulty in breeding those he took to America and there is little doubt that this species will prove to be a good breeder like the Black-cheeked and Nyasa Lovebirds.

Mr. Chapman's Tanganyika consignment contained a few other birds, two of which were new to Aviculture, namely the Blue-headed Waxbill (*Uraeginthus cyanocephalus*), which may be described as a Cordon Bleu with a red bill and the blue extending over most of the head. And the Buff-crowned Whydah (*Linura fischeri*), a small and very dark-coloured Whydah with a distinct buffish crown.

D. SETH-SMITH.

LOVEBIRDS

By MRS. PRESTWICH

(Continued from p. 136)

AGAPORNIS TARANTA

The Abyssinian Lovebird has never been very popular with aviculturists, probably because it is considered quarrelsome and very inclined to reproduce its kind. Although it had been described nearly a hundred years previously, it was unknown in the living state in England until the late Mr. H. D. Astley brought a pair from Italy in July, 1909. This pair was given to him by a lady who apparently thought them quite common; they were part of a small consignment which reached Genoa in November, 1908. A few had been imported to Germany two years before, but had gone to the aviaries of an Austrian enthusiast. Mr. Astley's pair formed the subject of a plate in the AVICULTURAL MAGAZINE, Third Series, Vol. I, No. 1. Abyssinians remained scarce until 1923, when they started to come over in fairly large numbers, and are now readily obtainable. The mortality in newly-imported birds is very heavy; they usually arrive in a very poor state, crowded in filthy cages, and it is little wonder that disease is rampant. In many cases they are entirely devoid of feathers on the head. I once had the misfortune to see the survivors of a very large collection: they were all in an exceptionally bad way and died in tens during the few days following their arrival in England from beriberi and kindred troubles. In this case cocks and hens alike were absolutely bald, in addition they had developed cannibalistic tendencies. It is common for the cocks to nibble and pluck the crimson feathers from the foreheads of each other, but these had long passed that state, and when a bird fell from a perch through weakness, several would immediately attack the unfortunate, and after putting it out of its misery, eat the major portion of its head. Fortunately birds imported direct by the English dealers do not arrive in such a shocking state, but only the birds from Continental dealers, who are not as particular as the majority of our importers. If newly-imported birds are obtained they should be kept moderately warm and given soaked millet and canary seed for a week or so, they can then be accustomed

to the staple diet of canary seed, white millet, oats and white suflower, the last named they are especially fond of. Their water for the first few days should be slightly tepid. If the plumage is very soiled they may be sprayed with lukewarm water after they have had time to settle down provided they are kept warm and given an opportunity to dry thoroughly before dark. They should not be put outdoors until the beginning of May, unless the weather is exceptional. They will settle down very rapidly and are very hardy. A dry draught-proof shelter is absolutely essential, as *A. taranta*, in common with all the other members of the family, cannot stand draughts or damp. The Abyssinian is the largest of the group, but is not very active and rather shy. They have rather pretty notes, sometimes resembling Peach-faced Lovebirds, and sometimes the cock has quite a twitter, after the fashion of the Bengalese. No difficulty is experienced in sexing this species as the cock has a cap of the richest crimson, which is wholly absent in the hen. Nevertheless, breeding successes recorded in England are few, but several have been reported abroad. The late Mr. Astle stood a very good chance of being successful with his original pair as contrary to general experience they showed signs of desiring a nest almost immediately after their arrival. Unfortunately the cock was unable to climb out of an exceptionally deep nest-box, which he had been exploring; he was not missed for several days, and it was then too late. The unmated hen laid eggs the following year. 1925 Mr. W. Lewis claimed to be the first to succeed in Great Britain. The old birds took to a husk towards the end of June and laid four eggs, which they duly hatched, but only reared two young, which were like the hen when Mr. Lewis disposed of them at three months old. Incubation was thought to take sixteen days. Soon after Mr. Lewis had made known his success, Mr. Alfred G. Groves, of Bath, claimed priority. In response to a request by the Editor for particulars Mr. Groves wrote as follows: "The Abyssinian Lovebird bred last year left the nest the second week in June. The parents came from late Mrs. Dalton Burgess' collection. Three eggs were laid, but only one was fertile and the youngster remained in the nest for a long period" (*A.M.*, Fourth Series, Vol. IV, p. 190). So it would seem that the honour of being first goes to Mr. Groves. In both cases details

very meagre, but an excellent account appeared in the AVICULTURAL MAGAZINE, June, 1926, to which members should refer. The account in question is a translation from the German publication "A.Z." and concerns the experiences of Herr Ed. Schütze. The following extracts are for the benefit of new members who may not possess this number: The hen appeared to be incubating at the end of January, 1925. An inspection on 17th February showed three almost round eggs, and on the 23rd two young had hatched, the third egg being fertile. Size of eggs 23.18 mm. Incubation period about eighteen days. The hen alone fed the young for about the first week. The young were almost feathered by 16th March, looked out of the box for the first time on the 19th, and the first left the nest on the 29th, the second, four days later. Both resembled the female, except the red of the beak was paler; both proved to be females. On 9th April the young began to feed themselves, but were still fed by their parents; 27th April, the young independent, though still fed occasionally until 4th May. For the first few weeks the young birds were given soft food, containing parents' eggs and hard-boiled egg; on this food they thrived and later took to eating seed, especially millet. A very interesting point observed was that these birds built no nest as other Lovebirds do, but the female plucked the feathers from her breast with which to form a nest foundation." This was not the first occasion on which Abyssinians had been introduced on the Continent as Neunzig (p. 715) writes: "In 1906 some were imported by an Italian dealer and came into the possession of an Austrian aviculturist. They bred, two young were hatched, which were fully coloured at ten months old. In another brood three young were hatched." Another account of the successful rearing of this species, at this time in America in the aviaries of Mrs. J. Bamfields, of Los Angeles, appeared in the AVICULTURAL MAGAZINE of August, 1926. In 1925, four eggs were laid, but only one youngster reared to maturity. In 1926 four eggs laid, three hatched, two young reared. The eggs were laid on a nest made of pieces of paper and canvas which they pulled to the front protection of their cage. This pair is in an aviary with the Softbills, and Mrs. Bamfields reports that they partake greedily of the mealworms and gentles intended for the other birds, and believes that her success is partly due to this insect food." It will be noted that

both Herr Schütze and Mrs. Bamfields provided insect food and both have been successful, so it would seem that this species benefits from the provision of a good insectivorous mixture. In the wild state the Abyssinian is said to make use of the nest of a species of Weaver, in the same way as the Peach-faced is said to use the nest of the Sociable Weaver bird. As regards its life in the wild, Heuglin says (*Ornithologie Nord-Ost Africas*, pp. 747-8) : " It usually lives in families of three to eight individuals, most abundantly in the so-called Woma-Deg (7,000 ft. above sea-level), yet it descends to the lowest limit of the Abyssinian olive-tree and the Qolqual Euphorbia, and at Semién and Wogara we still met little parties at 9-10,000 ft. altitude. The isolated companies lead a tolerably independent life, but keep close together among themselves. They affect the crowns of the higher trees, especially of *Juniperus* and the *Chandelii* *Euphorbiæ*; at the season of the ripening of the fruits of the *Cordias* and *Sycamores* they also settle upon them. The call-note consists of a shrill, at times chattering, chirp, very like *Agapornis pullaria*. The males when in flight often utter a sharp puff. The flight itself is usually high, straight and humming; these birds also climb with great facility." Heuglin thinks the pairing season must be midsummer.

Abyssinians are given a very bad name as regards their quarrelsomeness, but they agree fairly well with other members of the genus. Softbills they ignore, but it is not safe to associate them with small Finches, etc., especially at breeding time. Two pairs of Abyssinians should on no account be kept in the same aviary unless it is of very exceptional size.

(To be continued.)

HONEY-GUIDE DEATH LURE

By MRS. PRESTWICH

" A Honey-guide lured a native workman at Nchanga to a tree where the workman was struck by a deadly snake and died in a few minutes."

Probably many members read something similar to the above

the recent daily papers, and possibly some wondered to what bird this referred. The following extracts are taken from Newton's *Dictionary of Birds* and throw some light on the matter :—

“Honey-guide, a bird so called from its habit or supposed habit of pointing out to man and to the ratel (*Mellivora capensis*) the nests of bees. . . . Yet Mr. Layard says (*B. S. Africa*, p. 242) that the birds will not unfrequently lead anyone to a leopard or a snake, and will follow a dog with vociferations,¹ so that at present judgment may perhaps be suspended on the matter, though its antics and noisy cry unquestionably have in many cases the effect signified by its English name. If not its first discoverer, Sparrman, in 1777, was the first to describe and figure this bird, which he met with in the Cape Colony, giving it the name of *Cuculus indicator*, its feet with the toes placed in pairs—two before and two behind—inducing the belief that it must be referred to that genus. Vieillot in 1816 elevated it to the rank of a genus, *Indicator*; but it was still considered to belong to the Family *Cuculidæ* (its asserted parasitical habits lending force to that belief) by all systematists except Blyth and Jerdon, until it was shown by Mr. Blanford and Mr. Sclater that it was more allied to the *Capitonidæ* (Barbet) and, in consequence, was then made the type of a distinct Family, *Indicatoridæ*. . . . In the meanwhile other species had been discovered, some of them differing sufficiently to warrant Underhill's foundation of a second genus, *Prodotiscus*, of the group. The Honey-guides are small birds, the largest hardly exceeding a Lark in size, and of plain plumage, with what appears to be a very Sparrow-like bill. Captain Shelley in 1891 (*Cat. B. Br. Mus.*, xix, pp. 1–12) recognized nine species and one sub-species of the genus *Indicator*, and two of *Prodotiscus*. Four of the former, including *I. sparrmani*, which was the first made known, are found in South Africa, and one of *Prodotiscus*. The rest inhabit other parts of the same continent, except *I. archipelagicus*, which belongs to Borneo and Malacca, and *I. xanthonotus*, which occurs on the Himalayas from the borders of Afghanistan to Bhotan. The interrupted geographical distribution of this genus is an instructive fact.”

¹ This is also a well-known habit with some *Corvidæ*, the Jays and Pies for example.

A possible explanation of the antics of the Honey-guide is given by a correspondent in the *Daily Mail*, who writes, "A honey-bird will lure a man to a tree where there is a snake because the snake is in the vicinity of its nest. My brother had an experience of this sort. A honeybird led him to a tree and fluttered round the stem where a snake was coiled. My brother shot the snake, and the honey-bird cheerfully settled on its nest."

Perhaps some member who has had personal experience with the genus would give his observations.

A TAME HONEY-GUIDE

By SYDNEY PORTER

If it had not been for a shower of rain William and I would not have met, which would have been William's loss. I will explain. Wandering one day in the Bush, in search of new birds, I encountered a shower (they are called showers in that part of the world where 4 inches of rain in an hour is no uncommon thing, but in England it would have been called a torrential downpour). So not wishing to retrace my steps 7 miles in a soaking condition and swim a swollen river I sought shelter for the night at the homestead of a friend a few miles away. When the ever-welcome pot of tea was brought in by a dusky chef, a small feathered creature dropped on to the floor from somewhere out of the said gentleman's attire and protested forcibly as it hopped across the floor. This was William. There was a general scramble and I caught him first; then the dusky "gentleman" protested—the bird was the only titbit for the evening to augment the monotony of the usual mealie pap—but as possession is nine points of the law as they say I stuck to William and he spent the night under a wire meat cover and was regaled with a diet of flies mixed with golden syrup. That was how William and I met.

Now the reason that I stuck to William was—because he was a very rare bird, far from common even in his native haunts. His other name was the Yellow-throated Honey-guide, his proper name *Indicator major*.

He was carried to his future home in a cardboard box, but owing to the humidity at that time of the year the box went to pulp and he was lost several times.

He proved to be the most charming pet I have ever had in the colonies. In a few days he was perfectly tame and would follow one about the garden sunning himself or uttering the strange melodious cry which birds of the genus *Indicator* utter when trying to attract the attention of a traveller to a bee's nest.

In colour he was dark moss-green above, the lesser wing-coverts having a golden green wash, a broad stripe from the middle of the rump through the upper tail-coverts primrose yellow, the three outer tail feathers the same yellow tipped with dark green; the whole underparts primrose yellow except the throat, which was golden yellow; there was a broad ring of naked blue grey skin round the eye; the eyes were brown; the feet which are zygodactyl are greyish blue.

The Honey-guides, only three species of which I have studied their native haunts, the Sparrman's Honey-guide in Mozambique, the Scaly-throated in Gazaland, and the present species in Mashonaland, are quiet and unobtrusive birds, living in the thickly-wooded bush and seldom obtruding themselves upon one's notice unless there is a bees' nest in the vicinity; then matters are reversed, and upon the sight of a human being, either black or white, the bird gets into a great state of excitement, flying round within a few yards and uttering its incessantly loud cry; if it sees that one intends to follow, the bird will lead from tree to tree a few yards ahead of one until it eventually reaches the nest. When it does actually reach the nest it utters an entirely different cry to the one which it has been uttering whilst it has been leading one on.

It is always the custom to leave a portion of the comb for the bird as a payment for its services. The natives have a superstition that if one does not leave anything for the bird, the next time they follow a Honey-guide it will lead them to a poisonous snake. It is a fact that these birds do lead human beings to snakes as several of my friends have proved, but this is done no doubt with the object of getting someone to kill the snake, for undoubtedly these birds possess a large share of intelligence, as I proved by my pet.

To get back to William, the native who caught him said that ever a Honey-guide drinks water it gets intoxicated and he found this bird "drunk" on the pathway leading to the native store. I think that this nigger must have belonged to the local branch of the R.S.P.C.A., for instead of breaking the bird's wings and legs as the natives always do whenever they find a bird (I have known natives to catch birds and treat them thus, leaving them all day in the boiling sun so that they would be fresh for the evening's meal, cruelty being inherent to the African nigger), this fellow only cut its wing feathers off.

William had an insatiable appetite. I am sure that he ate several times his own weight in a week, even if the last grub was hanging out of his mouth, because there was no more room inside, he would call for more. We fed him on all manner of soft insects and honeycombs. This is a very easy matter in a country where insects abound and where bees' nests are found everywhere. But hard insects and artificial food he would not touch.

There is a certain kind of hornet in the tropics which is a great asset to the amateur bird keeper. It builds large mud nests on the walls of rooms, usually preferring the kitchen where it is extra warm. The nests consist of from one to thirty compartments, the hornet lays an egg in each one and then stuffs it full of green caterpillars or large spiders, which it renders in a state of suspended animation by the injection of some subtle preservative, and as the hornets are continually building these wonderful nests, there is provided a never-ending supply of food, and upon the contents of these nests William was regaled. If the egg in the hornet's nest had hatched and the insects were eaten there was a huge juicy grub in their place which was relished even more than the insects.

William would follow after one anywhere if he were hungry and several times he was lost in a banana plantation, but upon being called he soon disclosed his whereabouts by uttering his strange cry.

He was frightfully inquisitive, prying into every dark nook and corner, and if a newspaper was lying on the floor he would get underneath it and come out at the other side. He liked to roost in some dark corner on the floor, usually under a chest of drawers. His favourite perch was on my foot, and once comfortably settled there he would

like funny little contented noises as though he were speaking to himself in an undertone.

I was hoping to bring him home to England, but as I had to make a detour of over two thousand miles because of a railway bridge being washed away, I found this absolutely impracticable owing to the impossibility of getting live food for a week's train journey, so I left him with a friend whom I knew would take care of him. Perhaps it was a good thing that he didn't come to this land of sunless grey skies and cold hearts, or like the writer he might have suffered from a perpetual heart-ache for that far away country of brilliant sunshine and eternally blue skies and—Freedom!

TWO RARE WEAVERS

By SYDNEY PORTER

Reichenow's Weaver (*Othyphantes reichenowi*)

A few of these beautiful Weavers were brought down from the interior of Tanganyika Territory in Central Africa by my friend Mr. Schulz, and given to me in the spring of last year at Antwerp.

I have never heard of their being imported before, and there is very little likelihood of their ever having been brought to Europe before, for they are rare even in the very remote part where they come from, and as notes on rarely imported birds are asked for I venture to send these very meagre ones.

The Reichenow's Weaver is rather a large bird, and at first sight might be mistaken for a small Oriole, and this is accentuated by the fact that the beak is not at all Weaverlike, being thin, long, tapering and glossy black.

The birds were caught on a volcano where Mr. Schulz makes his African home. In size they are rather larger than the Black-headed Weaver (*Hyphantornis nigriceps*), but more slender in build.

They made delightful aviary birds, exceedingly active and cheerful in demeanour, also very tame and confiding, always ready to take mealworms from out of one's hand even though they were in a large outdoor aviary.

These Weavers are mainly insectivorous in a state of freedom, and eat very little seed. On board the ship they killed and partly ate several of the rare Black-thighed Weavers that were confined to the same cage; they also plucked all the yellow feathers from out of the cock birds, and greedily devoured minced raw meat which was put into the cage for other birds. In captivity they eat a great deal of soft food and many mealworms.

In the aviary they spent most of their time searching the bushes and the ground for insects and weaving, but they never made a perfect nest. They moulted out into perfect specimens, but alas! they were killed at the end of the summer by the wretched cats chasing them on the aviary at night.

In colour the Reichenow's Weaver is bright golden yellow on the whole of the lower parts, somewhat greener on the flanks, the feathers having a remarkable satin-like texture in the living bird, the upper parts jet black, the lower back and tail olive green, the wings marked with olive yellow; the iris is white, which gives the bird a very cruel expression, as indeed it deserves. There seems to be a seasonal change in which the front half of the head changes to golden yellow.

I hope to receive some more of these birds later this year.

The Black-thighed Weaver (*Pyromelana capensis* *xanthomelaena*)

This very pretty little Weaver seems to have been seldom if ever imported, though it may have been confused with its very near ally, the better-known Cape Black and Yellow Weaver (*P. capensis*), a bird that it closely resembles and which it replaces north of the Limpopo River in South Africa. When in breeding plumage the male is velvet black all over except the shoulders and lesser wing-coverts, which are bright yellow, and a broad band on the lower back which is brilliant golden yellow; the feathers are elongated and cover the wings in repose; there is also an irregular line of white in the centre of the abdomen; the legs are black, also the upper mandible, the lower one is white. The hen is much smaller than the cock, and is the usual streaky brown with no trace of yellow. I bought my birds on the

land of Mozambique on the East African coast. I bought them with twenty other birds for the sum of 6s., including the cage!

These Weavers are very conspicuous objects in the landscape in the regions where they live owing to their brilliant coloration and comparative tameness, though they cannot be called common. In the breeding season each male takes possession of a certain area, either part of a reed bed or one of the huge anthills which are covered by a dense tangle of tropical vegetation composed of thorn bush, reeds, papaya fern, etc., but always in the vicinity of water. Here he reigns as a little king with his harem, chasing any other bird of the same or allied species from the immediate neighbourhood.

When in full plumage the male has a very peculiar "slow motion" flight. He first puffs out his feathers until he resembles a black and golden ball and appears to be twice his real size, and then sails with a strange jerky motion very slowly from bush to bush, and upon alighting each time utters his harsh rasping song. He is usually so engrossed with his performance that he takes very little notice of human beings.

Although the males are so much in evidence the females are very seldom seen, for upon one's approach they slip away quietly into the dense undergrowth, the male meanwhile chasing first one and then the other.

These birds feed upon the seeds of weeds, grasses, etc., and also small insects.

The nest is like that of the Scarlet Weaver, a most beautifully woven structure of fine texture, attached to several reed stems. The eggs, five in number, are pale blue.

Out of the breeding season, a few join flocks of other Weavers when they can at once be distinguished from the others by the yellow lower back and wing-coverts, this colour being retained all the year round. The majority of the birds, however, do not wander very far from their breeding haunts.

These Weavers are quite charming birds in captivity, lively and vivacious, singing the whole day long their rather harsh and rasping song.

They are wonderful nest builders, having constructed many perfect nests exactly resembling those built in the wild state, and if I had only

left them long enough in my outdoor aviary doubtless they would have nested, but I was compelled to take them indoors for the following reason: morning after morning to my great chagrin I found the bodies of my beautiful Weavers stiff and cold on the ground, first one and then another, all apparently in perfect health and feather, and I only discovered the reason when three out of my twelve birds were left: it was that arch-enemy of all bird keepers, cats. The brutes had climbed over the aviary all the night, causing the birds in their fright to batter themselves against the wires. The more the birds fluttered the more the cats chased them; but this year I have a sure remedy—arsenic and kippers!

Indoors the birds still continued to build, and at the present moment the remaining hen and two cocks are still building perfect nests.

SPECIES AND SUB-SPECIES.

By F. FINN, B.A., F.Z.S.

Aviculturists may be able to give us some light on this subject since by breeding from abnormal birds they often throw light on the heredity or otherwise of variations. Their experiments have often shown that a sudden variation or "mutation" is either inherited completely or not at all; this is the case, for instance, with the black winged form of the Peacock when crossed with the common type, and the young bird bred at the Zoo from a Zebra Curassow (*Crax globicera* feminine mutation *hecki*) and a typical Globose Curassow cock was an ordinary Globose Curassow hen, figured by our Editor with its female parent in the AVICULTURAL MAGAZINE years ago.

Yet yellow Budgerigars appear to owe their present far too strong tinge of green and too pronounced markings to crossing with greens and I can well remember when Silver Sebright Bantams, as described in Wright's *Poultry Book* a generation ago, had become straw-coloured by crossing with the golds, though the first crossing of golds and silvers reproduces the original colours truly, and true silvers have long ago been re-bred and are now common.

Moreover, I believe that I can see in some of the present light blue Budgerigars a tinge of green, and this mutation can be better likened to

wild form than can the yellow, for the light blue Budgerigar corresponds to the green very much as the Indian Grey Tit (*Parus major creus*) does to our Great Tit (*Parus major*), the yellow element in the plumage being eliminated in the Indian bird.

Do we know, moreover, that such mutations as the new and interesting Dark Common Pheasants (*Phasianus colchicus*, mutation *curus* Hachisuka), of which latter a nice pen are now exhibited at the Zoo, will not ultimately produce intermediate forms if persistently bred back to the typical birds?

If they did, we could envisage the production of sub-species as follows: First the type produces a mutation, which, if isolated or possessing some advantage of constitution, character, or adaptation to surroundings, becomes a constant local form. Then it breeds back, through some extension of range, locally to the type, and intermediates arise, all such intermediates being, as we know them to be in the case of our common British Pheasants, in the case of which imported sub-species have been crossed in, of hybrid nature.

If this be ever recognized and proved as a fact, it will reduce sub-species to the level of full-species hybrids, and render it as unnecessary to load our museums with series of sub-specific forms as it would be now considered unnecessary to fill them with avicultural full-species-hybrids, albimistic varieties, etc.

It may be argued that what I have been saying only concerns our-forms, which are not now—and rightly in my opinion—regarded as full species; but one gets the same intergradation where structure is concerned, as between the common Reed-Bunting (*Emberiza caesia*) and the large pale Bullfinch-billed Reed-Bunting of Central America, which Sharpe actually put into a distinct genus, *Pyrrhuloxia*. He also separated the Flightless Moorhen of Tristan da Cunha as a new genus (*Porphyriornis*) from the common Moorhen, though it chiefly differs in reduced wings and stronger and yellow-coloured feet.

Here also we can find a parallel in domestic birds. If anyone goes to one of our great poultry shows and looks at the Fawn Runner Ducks, which are the truest representatives of the Penguin Ducks studied by Darwin, it will be seen that these birds differ from Mallard in much the same way as the Flightless Moorhen does from our bird. They

are shorter-winged and longer and stronger-legged, and although not so true to type as wild birds, they certainly have evolved incidental differences in coloration. The Drake is like a Mallard with subdued colours, dark olive bill, olive-orange legs, deep bottle-green head, dull grey body, dull wing-bar, the white neck collar reduced or absent, and the chocolate breast-patch paler and less well defined. The Ducks are usually warm fawn, with a bronze wing-bar instead of blue, black bills and pure olive feet, and the black markings of the plumage reduced to small longitudinal streaks even on the upper part.

Most interesting is the fact that the Drakes not unfrequently even when having only a small white collar or none, have white wing-coverts like Wigeon, and that such white wing-coverts occasionally appear in the Ducks.

Altogether these birds, although a domestic race, look remarkably like a full wild species evolved by isolation where flight and swimming were both at a discount. Yet if they did exist as wild birds—as so many fanciers actually imagine—and an invasion of Mallard took place in their home, interbreeding would no doubt occur and sub-species forms would arise.

I do not mean to imply that the structural points of the Flightless Moorhen and Bullfinch-billed Reed-Bunting arose by sudden mutation any more than Mallard parents could suddenly produce Fawn Runners or offspring complete in all points—though I have seen a Mallard Drake in Regent's Park with the Runner carriage; the structural peculiarities of such birds have no doubt arisen by the adding up of such small variations as we know to occur by natural selection (the Runner Duck no doubt, was not deliberately bred to the shape it shows, possibly being usually compelled to forage for themselves in the East). The coloration of such structurally different races often does not differ much from that of the type, and has no doubt arisen incidentally, being correlated with successful structural or constitutional variations. Yet when structurally different forms of recent common origin meet, we can see that they interbreed just as colour-mutations do, as in the case of the Kaleege Pheasants.

In Assam, we have the Purple Kaleege (*Gennæus horsfieldi*) evidently a melanistic male mutant from the Lineated Kaleege of Burma.

atus) with its grizzled back and streaked breast. These species prick-crested and hen-tailed, but China has evolved the well-known ge, drooping-crested, long-tailed, white-backed Silver Pheasant (*nycthemerus*) which certainly would not have arisen suddenly in its complete form from the Lineated. Yet it interbreeds both with this and with the Purple where they meet—though about thirty species were made of the hybrids, of which some (of the Purple-Silver cross) are even alike on the two sides of the body.

To be developed as distinctly as it is, the Silver Pheasant must, in its infancy as a species, have been isolated from its fellows for a considerable period; while extension of range has apparently brought them together again, producing hybrid sub-species.

If this view be correct, all sub-species are simply mongrels; and full species are those forms which have been so long isolated as to have developed a dislike to mating with their relatives when by some cause they are brought into contact. This is evidently the case with the Golden and Amherst Pheasants (*Chrysolophus pictus* and *C. amherstiae*) which do not interbreed when wild, or even, though living in the same country, haunt the same localities, being indeed enemies; yet in culture has shown us that they will produce completely fertile hybrid offspring. Indeed, a captive sub-species has been developed, for most Amherst cocks nowadays show a touch of Gold blood, though as it comes out, curiously enough, in an excess of red, not of yellow, in the plumage, as well as in the breaking up of the black tail-bars.

How, then, does one recognize a true or full species? I think Wallace's definition—one that differs from another in more than one point—is very near the truth, but not quite exact, for intermediate forms may exist between two of such, as we see in the case of the Blue Pheasants.

The decisive points must apparently be at least three, as we see in the case of the Ruffed (*Chrysolophus*) Pheasants, which differ in colour, structure of ornamental plumage, feathering of face, and note, and have ceased to regard each other as kindred in the wild, though they will mate when man pairs them, and still produce, as I have said, quite fertile offspring.

THE BIRDS OF PREY

By G. H. GURNEY, F.Z.S.

The diurnal Birds of Prey (Falconiformes) are divided into two sub-orders, the Cathartæ and the Accipitres. The former contains the New World Vultures (Cathartidæ) with its sub-family Polyborinæ (Carrion Hawks); the latter the Secretary Bird (Serpentariidæ), the Old World Vultures (Vulturidæ), the Carrion Hawks, Hawks, Eagles, Falcons and their allies (Falconidæ) and the Ospreys (Pandionidæ). The Accipitres alone consist of nearly four hundred different species. Although the Raptores are not nearly so often kept in aviaries as many other species, still probably from their use in hawking, they were some of the earliest birds to be kept in confinement. Possibly also their somewhat sombre colouring, and their general reluctance to breed, may all account for the fact, that but few aviculturists go in for them, or may be the difficulty of providing animal food for them, or again their reputed fierceness and untameable natures may be the reason, and yet they are an extremely interesting group, and if properly understood, are generally easy birds to feed and cater for. Many of them stand confinement extremely well, and live to a great age, whilst many are perfectly hardy, and will become very tame, and as those who keep them will know, possess a charm and interest quite different from any other class of birds.

It is quite impossible in a short article of this description to describe all the various species which have been kept in confinement: I can only give a short account of those which are more commonly seen, with a very brief description of their plumage. Owing to there being but a small demand for them, no *numbers* of any one species are imported; odd examples of all kinds of different sorts, many of them very scarce, arrive at the dealers, and may or may not be sold.

In this article I propose to describe (1) suitable aviaries, (2) food, (3) species which have been kept in captivity.

AVIARIES

No Birds of Prey of any kind are suitable for cages, they must be housed in aviaries. It is quite a mistake to suppose that they are all hardy; like all birds they will become acclimatized, and very many

will stand any amount of cold, but the smaller tropical and sub-tropical species are often very delicate and must be treated accordingly. To begin with, the aviary must be (for all species) in a sheltered place, possibly facing south; it is nearly always useless to have an open flight, with an elaborate heated house, as very few Hawks will go into such a shelter of their own accord. The aviary should be open only in front, and boarded at the sides, back, and over the greater part of the top; for the more delicate species, the whole of the top may be boarded and a glass front, covered on the inside with wire netting, fixed to the front of the aviary in the winter time. The size of the aviary must depend a good deal on the bird it is to hold, but personally I am in favour of large aviaries for the Birds of Prey: certainly for the bigger cultures and Eagles they can hardly be too large, though I must admit I have seen large Hawks (Buzzards and Kites) kept in quite small places, and looking the picture of health.

The perches should be placed well apart and at some distance from the ground, so that the bird must use his wings to get from one to the other. They should be of good strong wood, of different thickness, and I find pieces of cork bark nailed round the perches in separate places very much appreciated by the birds for standing on. A large steady block of wood, a couple of feet high, let firmly into the floor of the aviary is also much liked. It is a great mistake to overcrowd an aviary with perches, but there should always be one at the back, where the bird will get the most shelter. As regards the floor of the flight, it may be covered with sand, but I much prefer the natural earth: in some of my Hawk's aviaries half of the floor is of bricks, which are certainly easier to clean, and as these birds do not spend much time on the ground, it does not appear in any way to affect their feet.

In an aviary of this description most species of Raptores, with the exception of the Secretary Bird, and the smaller and more delicate tropical species, may be kept throughout the year.

FOOD

The all-important question of food is often misunderstood in the Birds of Prey. All my Hawks, except the small delicate ones, are starved for one day in the week, and they are never given more food than they

can consume at a meal, all food left uneaten is removed. They are fed once a day only. The best food is small birds, rats, mice and rabbits and for the larger vultures horse flesh, fowls' heads may also be occasionally given. Whenever possible it is essential that fur and feathers should be left on ; as a substitute for natural feathers, tow cut up into small lengths and mixed with the meat may be used. This plan is, or was, carried out at the Giza Zoological Gardens, and appeared to answer very well, though I must say I have never tried it. Birds of Prey are always lethargic in confinement and if they are to be kept really well and in perfect condition, the different forms of food for the various species cannot be too closely considered. It is often supposed that all a Hawk requires is a large hunk of flesh thrown into its cage and left there until it is consumed. It is quite unnecessary as many people imagine, to feed Vultures on carrion ; they do perfectly well on fresh meat, but the bones should be given with the meat. The very small Hawks, tropical and otherwise, some not much larger than Sparrows, are almost entirely fed on worms, beetles, moths, cockchafers, mealworms, and pieces of meat cut up very small ; others rather larger may be given small birds, mice, lizards, and small fish in fact many Hawks of all kinds delight in fish occasionally. The day before I starve my birds I generally give them an extra feed, but not always. Of course, when a bird is moulting he will require rather a more liberal allowance of food, but by feeding as I have described the majority of Raptores may be kept perfectly well and fit.

As regards drinking and bathing, I have seen it stated that Hawks never drink in confinement. This is incorrect. A pair of small Black winged Kites (*Elanus*) I had were constantly drinking, and a Black Vulture also occasionally did so. They are certainly not *great* drinkers as a whole, but should always have easy access to a large pan of fresh water, and the same applies to bathing. It is, as a rule, better to keep the Birds of Prey in separate aviaries, even if they are the same species (unless one is especially trying to breed them), one is often stronger than the other, and will take all the food : I think they do better also if apart. Vultures and possibly the Kites, which have rather different habits, may, however, be allowed to live together.

I will deal first with the New World Vultures.

CATHARTIDÆ

Family Cathartidæ

Distinctive characteristic, bill strongly hooked, nostrils pervious, claws clumsy and unfit for grasping. Head and neck bare, or covered with thin down, sexes alike. The Condor (*Sarcorhamphus gryphus*), plumage black, with a ruff of white down round the neck, bare skin on the head and neck a dull red. This magnificent species, one of the largest of the Birds of Prey, is perfectly hardy in confinement, and lives to a great age. It principally inhabits the great mountain ranges on the Western Coast of South America. It is very seldom seen in private collections. They are voracious, and somewhat stupid birds, and in a wild state, when gorged after feeding, can be easily captured with a lasso. This species has nested in captivity, incubation taking fifty-four days, and a single specimen has been known to live for fifty-two years in confinement.

Sub-family Cathartes

The Black Vulture (*Catharistes atratus*), black with a slightly brownish shade on the primaries. Occasionally imported, like all the vultures extremely hardy in captivity. It inhabits South America where it is very common. An interesting account of the attempted breeding of this species at the London Zoological Gardens is given in the AVICULTURAL MAGAZINE for 1920, Vol. XI, p. 115.

The Turkey Buzzard (*C. aura*), black with a purple gloss, skin of head and neck bright red. Several have been kept from time to time at the London Zoological Gardens. The only specimen I ever had did not do well and soon died. A very common bird all over the South American Continent. I have also kept the closely allied species *C. urubitinga*.

The King Vulture (*C. papa*), feathers round neck deep slaty grey inclining to black, no ruff, wings black, back, rump and tail black, under parts white. Has been kept at the Zoological Gardens.

Family Serpentiariidæ

Distinct characteristic, blue grey, wings black, crest grey and black, cere yellow.

The Secretary Bird (*Serpentarius Secretarius*) has been imported and kept in captivity from the very early days of aviculture. The first specimen to reach Europe alive was in 1770 and many of the early English menageries had specimens. The enclosure for a Secretary Bird can hardly be too large, and in such a place, they will take a great deal of exercise and keep themselves in good health; the enclosure should be surrounded by a wire fence at least 10 feet high, with a large dry shed facing south, the floor of which should be well covered with peat moss litter. Kept under these conditions they are generally pretty hardy, and may be allowed out, except in the hardest weather. They are tremendous feeders, and a diet of rabbits, given broken up but of course with the fur and bones, rats and small birds suits them well, if given perfectly fresh, while they are very fond of hens' eggs. I shall never forget the excitement of three Secretary Birds at the Buda Pesth Zoo, when five large live snakes were turned into their enclosure. They were promptly killed, but not immediately devoured. These birds have not yet been bred in captivity, but I believe a nest was made at the London Zoological Gardens more than once; and there appears to be no reason why they should not breed in a suitable enclosure, under favourable conditions. The sexes are alike, except in size, the male being somewhat the smaller. They inhabit Southern and Central Africa.

THE ACCIPITRES

Family Vulturidæ

Distinct characteristic. Bill strongly hooked, cere horny, no ridge over the eye, a ruff of down or plumes covers the shoulders.

The Black Vulture (*Vulture monachus*). Entirely black with dark brown reflections, head covered with thick velvety down, the neck is bare, of a livid flesh colour. Not infrequently kept in confinement and though eggs have been laid, the species has never been reared. A specimen lived at Lilford for thirty-nine years. Its headquarters are in the Mediterranean region, whence it extends into Africa and as far east as China.

The Griffon Vulture (*Gyps fulvus*). Fulvous grey above, ruff white lower back and rump dark brown, tail black. This species has lived

considerably over twenty years in confinement. Young have also been hatched in captivity. I have found it a dull heavy bird, and not particularly attractive. It extends through Southern Europe and North Africa as far as India, where it is replaced by the larger form *himalayensis*.

Kolb's Vulture (*G. kolbi*) and Ruepell's Vulture (*G. ruepelli*). Both these species have occasionally been kept in confinement. A pair of Kolb's Vultures nested at the London Zoological Gardens in December, 1912. After incubation lasting for fifty-four days, the young was hatched, but was unfortunately devoured by its parents two days later. They are found in West and South Africa.

The Bengal Vulture (*Pseudogyps bengalensis*) is another closely allied species, which has been kept at the London Zoological Gardens, and in one or two private collections. It often makes an extraordinary grating noise and becomes very tame. The lower part of the back of adult specimens is white, remainder black.

Other species which have been imported from time to time include the Pondicherry Vulture (*Otogyps calvus*), the Eared Vulture (*O. auricularis*), and the Occipital Vulture (*Lophogyps occipitalis*).

The Egyptian Vulture (*Neophron percnopterus*). White, primaries black, naked head, and neck bright yellow. This is one of the smallest of the Vultures, and has often been kept in captivity. Though somewhat of a morose disposition, I knew one which would come to the bars of its cage to be scratched and was perfectly tame. This species requires a long day shed for winter. The two examples I have kept appeared to feel cold rather considerably, and I do not consider it as hardy in confinement as most of the other Vultures.

Hooded Brown Vulture (*N. monachus*). Dark brown, tail black, neck covered with thick down of a pale brown colour. This South African species occasionally finds its way into European Zoological Gardens, but I have no records of how long it has lived in captivity.

Family Falconidæ

Distinct characteristics. Nostrils not pervious, muscles syringeal, metatarsi flattened.

Sub-family I. Gypætinæ

Tail wedge-shaped, feet and bill blue grey. The Bearded Vulture (*Gypætus barbatus*). The magnificent Lammergeier is greyish black with white streaks, top of the head white, pale brown lanceolate plumes on the neck and lower parts. This species has been kept at Lilford at the London Zoological Gardens, and at Catton by my grandfather, where one lived to a great age in a comparatively small aviary. It is, however, very seldom imported. It inhabits mountainous countries bordering the Mediterranean, and extends through Central Asia to China, and is widely spread over Africa.

Sub-family II. Polyborinæ

Tarsi elongated and bare; somewhat terrestrial. The Cara-Cara (*Polyborus tharsus*), dull blackish-brown, with whitish neck and breast, crown of head crested, back and rump dark brown, with narrow white cross bars, cere and bare space round the eye red. This species does very well in confinement, becomes very tame, and lives to a great age, one specimen having lived for over forty-one years in captivity.

They are frequently imported and inhabit the whole of South America. The very similar species *P. cheriway* is also occasionally to be obtained. These species walk and run with the greatest ease. They have a very noticeable and peculiar habit of throwing their heads right back and uttering a loud grating note, this is generally done when they are excited or startled.

Brown Carrion Hawk (*Milvago chimango*). Rufous brown, tail ashy grey, head and neck with black centres to the feathers, giving a striped appearance, under surface brown, cere pale pink. Very similar in habits to the two preceding species. These Carrion Hawks are very fond of fish, and will also greedily devour large worms. Inhabit the southern parts of the South American continent.

M. chima chima. Brown, head, neck, tail and under parts cream white, rectrices barred with brown. Like the preceding species, very terrestrial in its habits, in a wild state frequenting grassy plains; not infrequently seen in captivity.

Sub-family III. Accipitrinæ

Tail much elongated.

Short-toed Eagle (*Circætus gallicus*). Above dark brown, under

face cream, face black. This species has been kept at Lilford, Knowsley, by myself, and in the London Zoological Gardens, but like the majority of Eagles does not appear to be long lived in captivity. It is very fond of fishes, snakes, and mine would also eat eggs. Its range is very wide, inhabiting all the countries bordering the Mediterranean and over a great part of Central Asia. An interesting account of *Spilornis cheela* in captivity in India, by Mr. Stuart Baker, appears in the AVICULTURAL MAGAZINE, Vol. V, p. 154, and a specimen living in the Paris Zoological Gardens, given by Monsieur Delacour.

Hen Harrier (*Circus cyaneus*). Adult male grey blue, rump and underparts white; adult female, above brown, beneath pale buff with dark brown markings. This and the two following species are not infrequently kept in captivity. Personally I have only kept the Marsh Harrier. They are amongst the least desirable of the larger Birds of Prey, as they never become used to confinement, and always knock themselves out on the slightest provocation. They should, therefore, *never* be kept in an open aviary.

Montague's Harrier (*C. cineraceus*).

Marsh Harrier (*C. aeruginosus*).

Three other species of Harrier have been imported, viz. Gould's Harrier (*C. gouldi*) from New Zealand, Swainson's Harrier (*C. macurus*) inhabiting North Africa, India, etc., and the Moor Harrier (*C. maurus*) from South Africa.

The Red-necked Hawk (*Micrastur ruficollis*). Brown or blackish above, marked with grey and white, white below. I once kept a Red-necked Hawk, and a very nice bird it was. It was fed entirely on sparrows, and much preferred them to rats and mice. The species has also been kept at the London Zoological Gardens, and one of the London dealers had three beauties a year ago. It is found in Central America.

The Many-zoned Hawk (*Melierax polyzonus*). Grey brown above, underparts black, tail black and white. This very pretty Hawk is sometimes imported. It lives in Abyssinia, in Ethiopia, and is rather a delicate species.

The Chanting Hawk (*M. canorus*). This species is supposed to have a mellow piping song or whistle, the only individual I ever knew was

always absolutely silent. Like the preceding species it comes from Africa.

The One-streaked Hawk (*Asturina monogrammica*). Above dark grey, primaries blackish, tipped with white, tail black, broadly tipped with white, under parts ashy brown. An adult and an immature bird lived for some time at the London Zoological Gardens in 1871. It inhabits Western and North-Eastern Africa.

The Goshawk (*Astur palumbarius*). Above ashy brown, four dark bands on the tail, which is tipped with white, below it is barred with brown and white. Perhaps one of the most widely kept Raptores. It may generally be seen at the London Zoological Gardens and becomes very tame and quiet in captivity. Four other species of Goshawks (*Astur*) have occasionally been imported, they include the Allied Goshawk (*A. approximans*) from Australia, the Gambian Goshawk (*A. tibialis*) from West Africa, the Tachiro Goshawk (*A. tachiro*) from South Africa and the White Goshawk (*A. novæ-hollandiæ*) from Tasmania. The latter is one of the most beautiful Hawks there is and a fine addition to any collection. Pure white in colour, with black bill, yellow cere and legs and bright red iris, a wonderful combination of colour.

The Sparrow Hawk (*Accipiter nisus*). It is hardly necessary to give a description of this well-known species, which extends throughout Europe, North Africa, into Asia, north of the Himalayas. It is not a desirable species for captivity, being always exceedingly wild and fierce, and never becomes tame, even if taken when quite young from the nest. Small birds are the only food on which this species will do well in confinement.

The Black and White Sparrow Hawk (*A. melanoleucus*) from South Africa is a handsome black bird, which had been kept at the London Zoological Gardens. The Pileated Sparrow Hawk (*A. pileatus*) and the Red-bellied Sparrow Hawk (*A. rufiventris*) have also been kept in confinement.

Sub-family IV. Aquilinæ

Tail nearly even. Feathers of the neck often lanceolate; tarsi generally feathered to the feet.

The Guianan Crested Eagle (*Morphnus guianensis*). Black, head



Photo D. Seth Smith

ONE-SHOULDERED HAWK
(*Asturina monogrammica*)

upper breast brown, crest brown with black tips. I have twice seen this bird in Continental Zoos, and it has been occasionally brought to England. It has very long legs, and in a wild state haunts thickets near water. It is found in Central America.

The Harpy (*Thrasaëtus harpyia*). Upper parts black and grey, with six black bars, under parts whitish grey. This splendid bird has been kept rather frequently. One lived for many years at Northrepps in quite a small aviary, it was out in all weathers and appeared to be perfectly hardy: it was in perfect condition when it died. It was fed solely on rabbits. Like the preceding species it inhabits Central and northern part of South America.

The Monkey Eating Eagle (*Pithecophaga jefferyi*). For an interesting account of this fine forest Eagle see a paper by Mr. D. Seth-Smith in the *Ibis* for 1910, vol. iv, p. 285.

The Bateleur Eagle (*Helotarsus ecaudatus*). Black, back and tail red brown, much crested, cere, lores and feet bright red. This very conspicuous bird is often seen in confinement. It is one of the most frequently imported of the Birds of Prey; and by reason of its distinctive colour will always command attention. Hardy, quiet, and becoming very tame, it is one of the most attractive of the larger birds.

One that was kept at Northrepps followed its owner about everywhere like a dog, and nothing pleased it more than to join the chickens when they were being fed, and actually pick up the corn which was being given to them. It would occasionally throw a grain of corn up into the air in play, but it was never observed to swallow any. It never attempted to molest the fowls in any way.

Another Bateleur that I knew had the same habit as a Cara-Cara, throwing back its head, over its neck, and uttering a loud cry. A specimen of this species lived for fifty-five years in confinement in Amsterdam. The following species of Hawk Eagle (*Spizaëtus*) have all been kept in confinement occasionally, but they are rare and seldom imported. They are fairly hardy, and do well on the same food, and under the same conditions as most of the described species. The Crowned Hawk Eagle (*Spizaëtus coronatus*) inhabits South and West Africa. The Martial Hawk Eagle (*S. bellicosus*), habitat South Africa;

the Spotted Hawk Eagle (*S. nipalensis*), habitat India ; the Ceylon Hawk Eagle (*S. sphinx*), habitat Ceylon ; the Malayan Hawk Eagle (*S. limnatus*), habitat Borneo ; and the Eastern Hawk Eagle (*S. orientalis*), habitat Japan.

The Booted Eagle (*Nisaëtus pennatus*). Brown above with distinct white patch on the shoulder, head, neck and under parts pale fawn, much barred with brown. Legs much feathered. This pretty little Eagle has been kept by a number of private aviculturists. A pair made a large nest in one of the aviaries at Catton, but no eggs were laid. It is found in South Europe, North Africa, and parts of Asia.

Bonelli's Eagle (*N. fasciatus*). Colouring very similar to the preceding species, but without the white shoulder patch. This species has been kept at the London Zoological Gardens and at Lilford. I have never had it. In a wild state it is very fond of eating snakes. Its range is much the same as the preceding species. It has lived for sixteen years in confinement.

(To be continued.)

AVICULTURAL NOTES

By the EDITOR

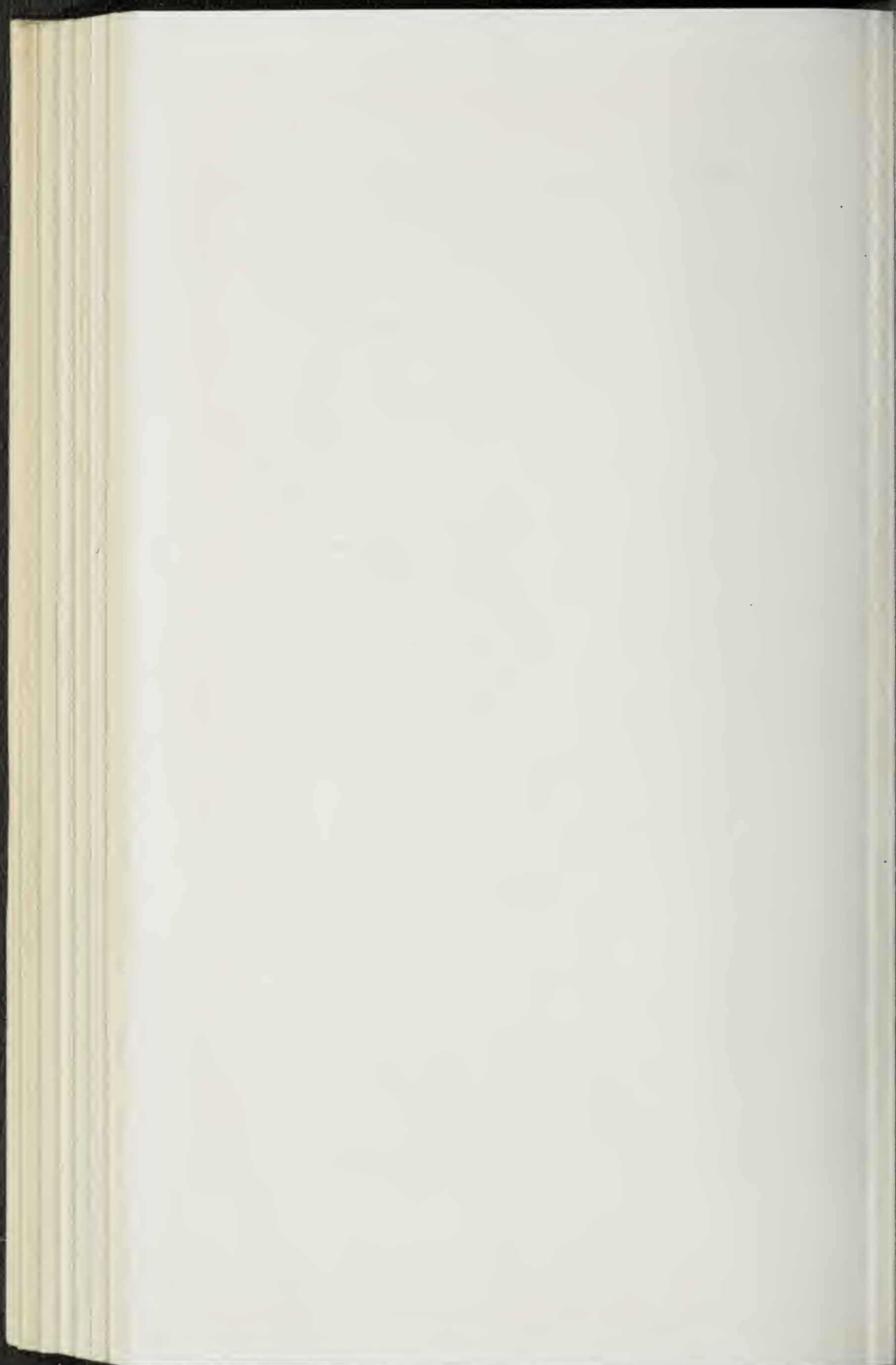
The new arrivals at the Zoological Gardens include a very beautiful pair of Mot-mots from Trinidad presented by Miss Byatt. The species found on that island and Tobago, *Momotus swainsoni*, is somewhat smaller than most of the mainland forms and more brilliantly coloured and is recognized by its rich chestnut undersurface which extends to the throat.

The Mot-mots are allied to the Bee-eaters and have very similar habits such as that of nesting in holes in banks, and capturing their prey on the wing, but the tail of the Mot-mot is unique. The tail central features are considerably longer than the others and when they are first grown they are normal feathers, but after a short time the barbs for an inch or so disappear, leaving the bare shaft with a tuft or racquet at the end.



Photo D. Seth Smith

HARPY EAGLE
(*Trasaetus harpyia*)



or long it was supposed that the Mot-mot carefully trimmed its tail to this peculiar shape after every moult, but both Mr. Beebe and the Mr. Astley have proved that at this particular part of the feather barbs, where they join the shaft, are degenerate and brittle, and that they either fall off without assistance, or are assisted in the ordinary process of preening.

Whether further consignments of the Masked Lovebird will be started we cannot tell, but in any case the small collection that has been started should be sufficient to establish the species in this country in some years to come provided they are well looked after and prove to be free breeders. It would be as well if those members who have started pairs of these would get into touch with one another with a view to exchanging stock after the breeding season. It would be a great pity if this beautiful species, now that it has come to us, should be allowed to die out.

In the meantime we shall look forward to publishing the first account of the successful breeding of the species in captivity, and hope that those fortunate possessors of these birds will not forget to keep careful notes of their nesting habits.

Mr. Ezra's wonderful collection at Foxwarren Park contains at the present time no less than twelve species of Birds of Paradise, namely Twelve-wired, Greater, Lesser, Count Raggi's, Red, Princess Stephanie's, Magnificent, Hunstein's, Wilson's, Lawe's Six-plumed, Wallace's, and the Lesser Superb. Amongst the new arrivals are Wilson's in perfect plumage, and one had not before realized what a wonderful little bird this is, as those imported some years ago by Pratt were none of them in such exquisite condition as these.

CORRESPONDENCE

PASSERINE PARROTTLETS

SIR,—As the possible originator of the statement that it is cruel to keep Passerine Parrotlets (Blue-winged Lovebirds) shut up, I should like to say that I quite agree with the Editor that a pair should be happy in a flight cage $48 \times 12 \times 18$ inches, especially if they were turned into a small aviary in summer. What is cruel is to keep Parrot Lovebirds, or the small Broadtailed Parrakeets of the Redrump type permanently in a Parrot cage, or cage of similar dimensions, on bare fixed perches, with no fresh twigs to nibble and no facilities for nesting. But “the little more and how much it is”; while a Parrot cage is an abomination for them, they may be perfectly content and even inclined to breed in properly furnished flight cages and aviaries of the most modest dimensions.

TAVISTOCK

HARDIHOOD OF SOME COMMON FOREIGN BIRDS

SIR,—I read with much interest the article by Mr. Appleby in the May number, and thought perhaps a few observations on the subject of mortality among the less expensive foreign seed-eaters might be of interest.

My aviary is absolutely unheated and is situated in Surrey. Unfortunately the only choice of position was one facing north, and only open flight gets any sun. The shelter is in two parts, one altogether open in the front and the other screened off so that no cold wind can penetrate. The roof of this latter part is lined with loose straw tucked under laths and that is the only protection from frost. The roof itself is a high-pitched gable. In this I have Orange-cheeked and common Grey Waxbills, also Cordon Bleus, and the only deaths for three years have been from accident, such as flying against a bar or from old age. My Grey Waxbills were purchased in 1921, and the best out of four are alive and in perfect condition. I also have kept Zebra Finches, yellow and green Budgerigars, an odd Java Sparrow—another hanged itself in a forked twig, and some Cutthroat Finches.

lost the hen Zebra Finch also through flying into a twig, and have been removed the fatal branch which projected across the opening from the inner shelter to the covered part of the flight. Since then there have been no more accidents.

The water supply is a cement and pebble pool in the open flight which has to be freed from ice regularly in the coldest weather. The food supplies are in hoppers in the covered flight and consist of canary seed and Indian millet only. Green foods such as flowering grass, chickweed and groundsel are freely given, but the latter is not much appreciated. All is scrupulously removed when withered. The covered flight is floored with about a foot of sand so that there is no damp. On this dryness I attribute the freedom from illness of my birds. There are some small bushes of wild plum, and a small sycamore in the open part of the flight, more for the purpose of harbouring insects than for anything else, as I find the Waxbills and Cordon Bleus are very keen at catching small flies.

The wire roof of the open flight is pitched as high as possible so as to get all the sun that is possible, owing to the north aspect. I find the Waxbills, etc., appreciate a cosy box with plenty of dry straw in it as a winter roosting place in the inner shelter. I may say this inner shelter is not dark as there is an obscured window in it besides the opening from the covered shelter shed.

I have come to the conclusion that when acclimatized the most serious dangers to this class of birds are damp and draughts. Cold by itself is not to be feared so long as the birds have plenty of room for flight.

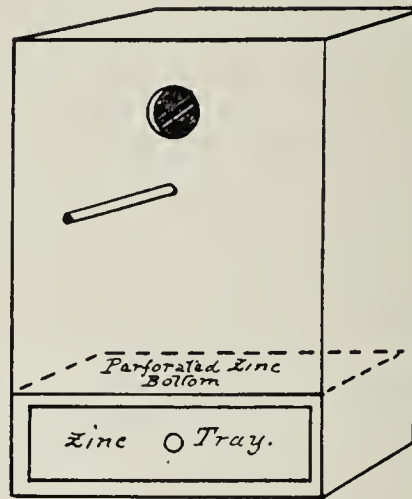
These remarks are merely platitudes, but some beginner may perhaps pick up some useful hint.

W. W. SMITH.

NESTING BOX FOR LOVEBIRDS

SIR,—As a very interesting article is now running in the *AGRICULTURAL MAGAZINE*, dealing with Lovebirds, I thought it an opportune moment to send you a description of a nest-box that I have designed.

It seems a general trouble that the young of both Black-che and Nyasas die in the shell, and a foundation of damp moss, or other substance seems a remedy.



In the nest that I have designed, which follows usual shape, perforated zinc bottom is used, to allow the damp air to percolate from a zinc tray at the bottom. In this tray is placed either damp spagnum moss or sponge.

It should be noted particularly that the damping fluid should consist of a weak solution of Sanitas or other compound that will prevent decay.

DENYS WESTON.

ERRATA

Page 133, *for* Prestwick *read* Prestwich.

Page 136, *for* Mrs. F. G. Hedges *read* Mr. F. G. Hedges.

Plate facing p. 170, *for* One-sheaked Hawk *read* One-streaked Hawk.

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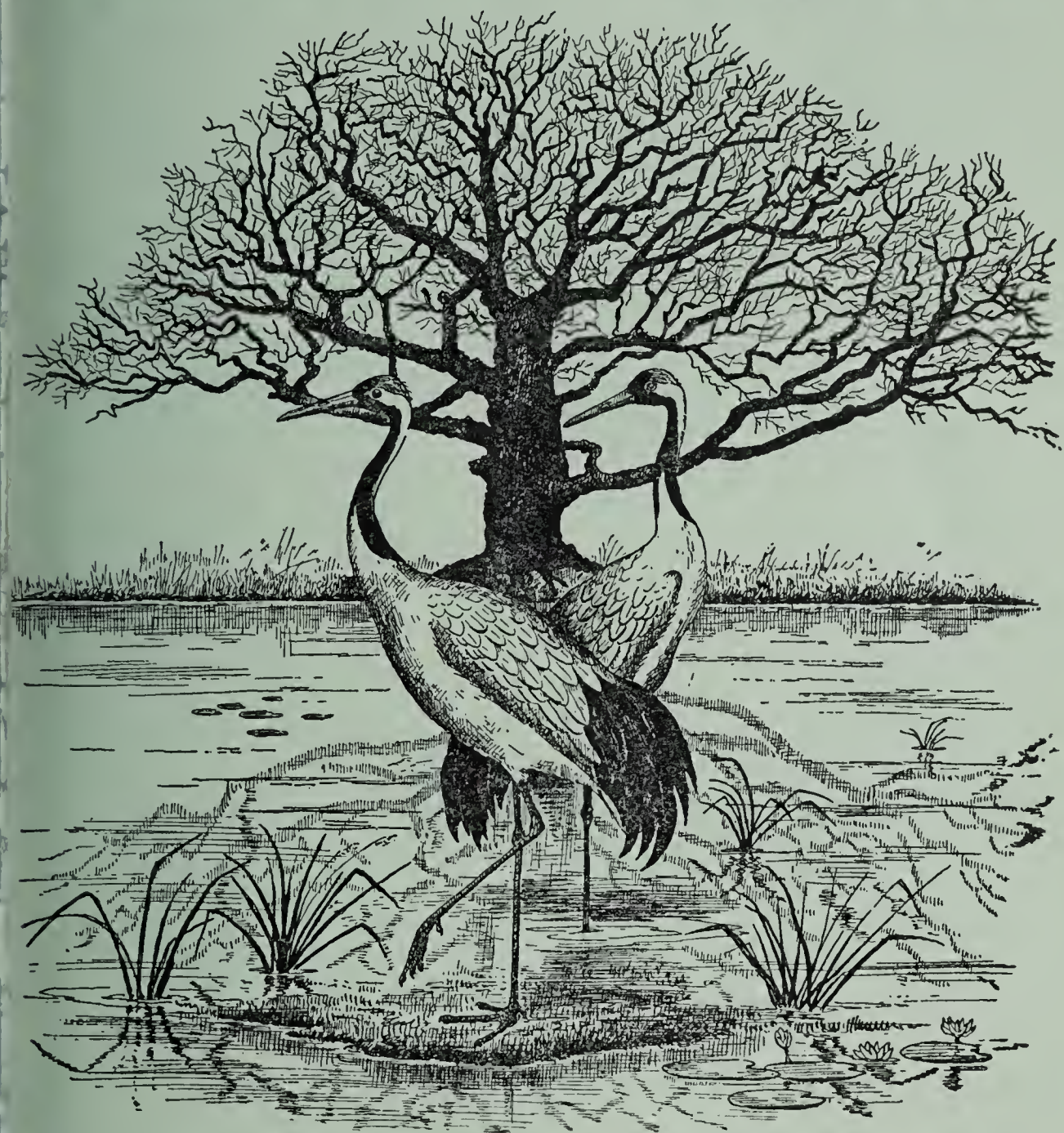
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THE
Avicultural Magazine



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THE AVICULTURAL SOCIETY.

FOUNDED 1894

NOTICE TO MEMBERS

The Subscription to the Avicultural Society is £1 per annum, due on the 1st of January in each year, and is payable in advance. The entrance fee is 10/6. The *Avicultural Magazine* is sent free to members monthly. Members joining at any time during the year are entitled to the back numbers for the current year, on the payment of entrance fee and subscription.

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Rule 1.—A short account of the illness should accompany the specimen. All birds to be sent as fresh as possible to Mr. C. H. HICKS, The Prosectorium, The Zoological Society of London, Regent's Park, London, N.W. 8.

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Layard's Parrakeet,
Palæornis calthorpæ.

THE AVICULTURAL MAGAZINE

BEING THE JOURNAL OF
THE AVICULTURAL SOCIETY
FOR THE STUDY OF
FOREIGN & BRITISH BIRDS
IN FREEDOM & CAPTIVITY

Fourth Series.—Vol. V.—No. 7.—All rights reserved.

JULY, 1927.

LAYARD'S PARRAKEET (*PALÆORNIS CALTHROPÆ*)

This is one of the most beautiful of the genus to which it belongs, and is confined to the island of Ceylon, where it is not uncommon in forest-covered hills. It is very seldom imported to Europe, which is to be regretted.

In its native country this Parrakeet is said to associate in moderately sized flocks and to be noisy and restless, uttering a harsh "crake" with the wing as it dashes up and down the forest-clad glens of the Ceylon mountains. It is said to be very partial to the wild fig.

The coloured plate renders a description of this species unnecessary. The bird figured is a male, the female being very similar in colouration, somewhat duller with the bill dusky black.

D. S-S.

BIRDS OF PREY

By G. H. GURNEY

(Concluded from p. 172)

The Golden Eagle (*Aquila chrysaëtus*). A description of this well-known bird is hardly necessary. It is not so often kept in captivity as might be supposed. It has nested on two occasions at Lilford and, though eggs were laid and incubation took place, both birds sitting alternately, there was no result.

Imperial Eagle (*A. imperialis*). Adult blackish-brown above, tail ashy-grey, head and neck light fulvous. This very handsome species has been kept rather frequently in confinement. Three were kept at Northrepps, one of which had been there over thirty years. A hen laid several eggs in a scrape made on the floor of the aviary but would never sit. Their range extends through Southern Europe to China and India.

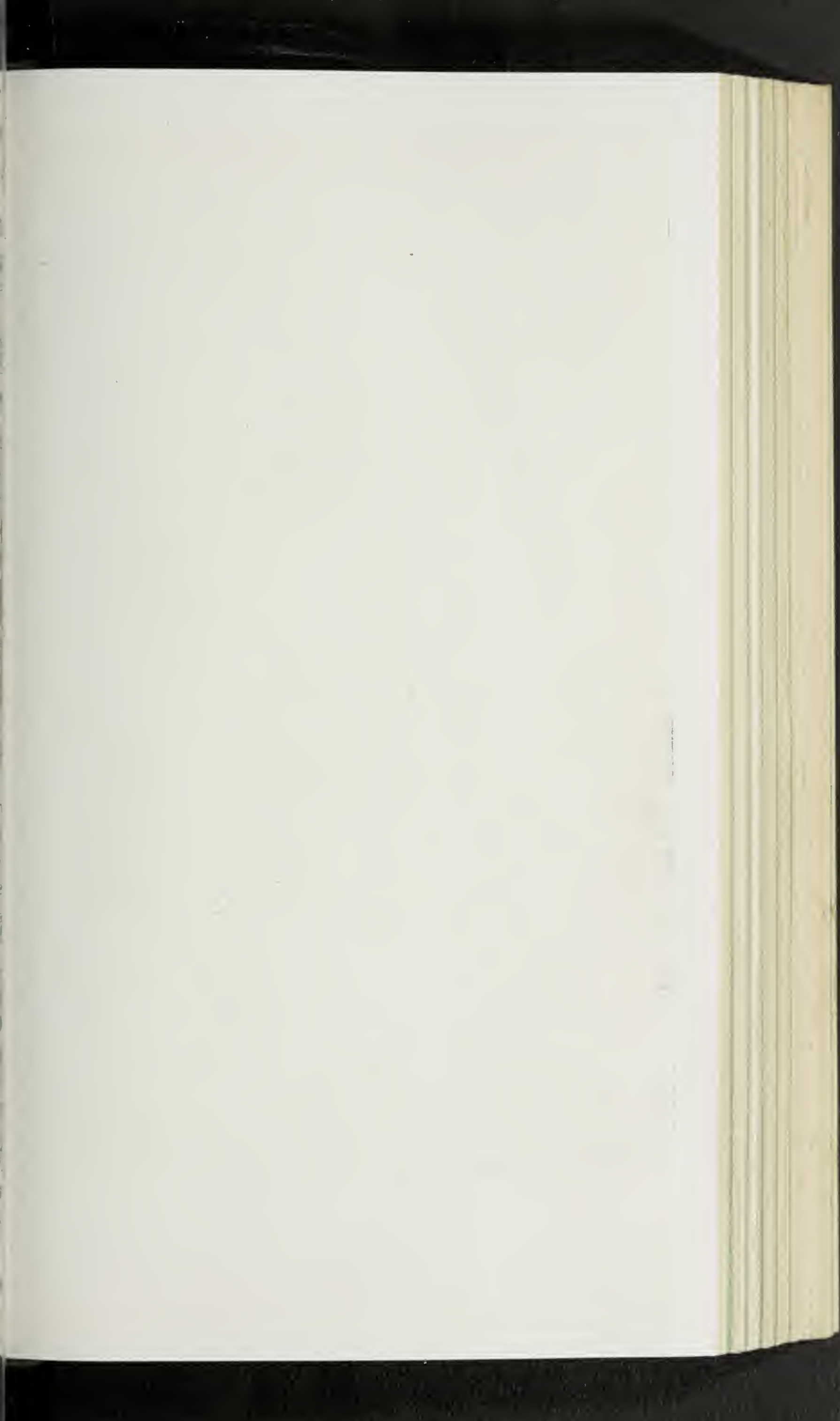
Tawny Eagle (*A. rapax*). Above deep brown, primaries black, tail brown, entire under surface dark brown. Occasionally imported. It is found all over Africa, extending occasionally into Southern Spain.

The White-Shouldered Eagle (*A. adalberti*). Crown of head black, upper part of neck sandy-brown, upper parts black, entire under surface blackish. A pair of these Eagles were kept at Northrepps many years. They were obtained from a nest in Spain by Lord Lilford in May, 1872. One of these Eagles was killed by an accident when about twenty-three years old, the other died from natural causes in December, 1916, after forty-five years in captivity.

Other species of Eagles (*Aquila*) which have been kept in confinement are: the Spotted Eagle (*A. clanga*), habitat South Russia, Persia and India; the Wedge-tailed Eagle (*A. audax*), habitat Australia; and the Vulturine Eagle (*A. verreauxi*), habitat South Africa.

The White-tailed Sea-eagle (*Haliaeetus albicilla*). Generally brown, tail white, the fully adult plumage is not attained in this species until it is nearly six years old. Most of the Sea Eagles appear to do well in captivity and, though not often imported, specimens may generally be seen, of one species or another, in Zoological Gardens, and occasionally in private collections. This species is generally distributed over the Old World. The American form (*H. leucocephalus*) and *H. leucogaster*, the closely allied Australian species, have also both been kept in confinement. *H. branickii*, the Korean Sea Eagle, and *H. leucoryphus*, the Fishing Eagle, have been represented at the London Zoological Gardens.

The Vociferous Sea-eagle (*H. vocifer*). Head and neck and entire breast pure white, tail white, remainder of lower parts rich chestnut, primaries black. This very handsome species, although so common all over East and Central Africa, does not appear to be often imported, though it has been kept at Lilford and in one or two other places.





appears to do well in confinement, and has lived for ten years or more. There are three specimens at present in the London-Zoological Gardens.

Sub-family Buteoninæ

The Rough-legged Buzzard (*Archibuteo lagopus*). Light brown with darker markings, the tail has a white base with three or four dark brown cross bars. Specimens which have been trapped or caught may occasionally be seen in captivity, and I have had two or three at one time or another. Like all the Buzzards, they vary very much *inter se*: some birds become remarkably tame, while others appear never to lose their natural wild habits. This well-known species frequently occurs in Great Britain in the autumn, is common all over Northern Europe, migrating south in the winter.

The North American form, *A. sancti-johannis*, has been kept at the London Zoological Gardens.

The Common Buzzard (*Buteo buteo*), I suppose the commonest of the birds of prey in confinement and one of the easiest to cater for. Nothing comes amiss to them in the way of food and many live to a great age.

The Jackal Buzzard (*B. jackal*). Black, tail chestnut red, sub-terminal band black, chest rufous white, mottled with black. A very handsome species, which is fairly frequently imported, it has been seen at Keswick on two occasions, a full account appearing in the AGRICULTURAL MAGAZINE.

I have never seen this species drink. It is perfectly hardy and appears to be long-lived in captivity. In a wild state this species feeds solely on snakes. It is found all over Central and Southern Africa.

The African Buzzard (*B. desertorum*) and the Augur Buzzard (*B. augur*), the latter a very handsome bird, are both brought over occasionally, and have been kept by several aviculturists, while the following species have been known in captivity. The Long-legged Buzzard (*B. ferox*), the Augural Buzzard (*B. auguralis*), the Lineated Buzzard (*B. lineatus*), the Red-tailed Buzzard (*B. borealis*), the Pennsylvanian Buzzard (*B. latissimus*), the White-tailed Buzzard (*B. leucicaudatus*), and the Red-backed Buzzard (*B. erythronotus*).

The Shining Buzzard-Hawk (*Asturina nitida*) and the Grey Buzzard-

Hawk (*A. plagiata*) have both been kept at the London Zoological Gardens.

Natterer's Hawk (*Rupornis nattereri*), very close to *Asturina*. A rare bird in captivity. It is found in Brazil.

The Chilian Eagle (*Geranoaëtus melanoleucus*). Black, wings grey, under parts white barred with grey. This species was kept at Northrepps. It preferred carrion to fresh food, occasionally it uttered a shrill piercing note. It has also been kept at the London Zoological Gardens. The Dark-winged Buzzard (*Leucopternis scotoptera*) and the Mantled Buzzard (*L. palliata*) have been imported. They inhabit South America, and the Zoological Gardens has also had representatives of the Ash-coloured Hawk (*Urubitinga anthracina*) and the Banded-tailed Buzzard (*U. zonura*) from Mexico and Chili.

The Crowned Harpy (*Harpyhaliaëtus coronatus*). Chocolate brown wings grey, a long occipital crest, rump brown, tail black, under parts brown.

Two Crowned Harpys were kept at Catton many years ago. It is a powerful and savage bird, very much of a carrion feeder. It ranges over the greater part of South America.

The Black-necked Buzzard (*Buteogallus nigricollis*). Chestnut with black markings, head grey, remainder of the body black. Another rare species from Brazil, solitary examples of which, however, have once or twice been brought alive to England.

The Brahminy Kite (*Haliastur indus*). Chestnut with darker wings, head, neck and lower parts white, streaked with black. This Indian bird is sometimes seen in captivity. Its flight is wonderfully easy and buoyant; one that was kept at Northrepps spent the greater part of its time on the ground in preference to a perch. This form has comparatively weak feet. Two other closely allied species of *Haliastur* have been imported, viz. *H. intermediæ*, the Javan Brahminy Kite and *H. sphenurus*, the Whistling Kite.

The Red Kite (*Milvus milvus*). This noble bird still breeds, thanks to strict preservation, in Britain. Centuries ago it was common even in the streets of London, acting as a scavenger. Its broad wings and deeply forked tail are always distinctive when it is seen in the air. In captivity it adapts itself to a sedentary life, but is easily kept, and

th proper treatment will live for years. I do not think, however, it so often seen in confinement as the next species.

The Indian Kite (*M. govinda*). The smallest *Milvus* and a common Indian bird. Brown above, head and neck somewhat rufescent, wings and primaries darker brown, tail brown, tipped with white and distinctly barred with black, under surface dull rufous brown. This species is rather frequently imported. I have known it to be sold as the Egyptian Kite, but its much smaller size would serve to identify it.

It has often been kept at the London Zoological Gardens.

The Black Kite (*M. migrans*). Above dark brown, tail dark brown, lining to rufous at the tip, head and throat whitish, under surface rufous brown. This species has been known to live twenty-two years in captivity, and is frequently seen in collections of birds of prey. It is found in Southern and Western Europe, accidental in England, the greater part of Africa, and probably extends into Central Asia. The closely allied *M. ægyptius* is also imported.

The Black-winged Kite (*Elanus cæruleus*). Above ashy grey, forehead and sides of face white, wings grey and black, tail grey-white, under surface pure white, iris brilliant carmine. This very beautiful and distinctive little Kite is an admirable bird for an aviary. I brought three back alive from East Africa, and have never kept more attractive Hawks. They became absolutely tame, and as soon as they saw me would run up to the side of their aviary, whistling loudly and fluttering their wings, in the hopes of getting a mealworm, of which they are very fond. It has frequently been kept at the London Zoological Gardens, but I do not think it a very long-lived species in captivity. It is found over the whole of Africa.

The Sociable Marsh Hawk (*Rostrhamus sociabilis*). Slate-grey all over, wings blackish, iris red. This very aberrant form has been reported a very few times. It feeds entirely on shellfish, and its extraordinary long slender bill with a large terminal hook is no doubt very useful for extracting the molluscs from their shells. It ranges throughout the northern parts of South America.

As far as I know, only two species of *Pernis* have ever been kept in confinement in England, viz. The Honey Buzzard (*P. apivorus*) and the Crested Honey Buzzard (*P. ptilorhyncha*), and these did not live for

any length of time. These species would require plenty of grasshoppers, bees, and wasps as food if they were to do well, but no doubt would take small birds and rats as well. Mr. J. G. Millais kept a Hoopoe Buzzard for some time on a diet of French plums and honey, the only things it would eat, while almost more extraordinary was a specimen kept by Lord Lilford, which was fed on rice pudding.

Sub-family Falconinæ—maxilla notched

The Crested Black Kite (*Baza lophotes*). Above glossy greenish black, varied with white and chestnut on the wings, a broad band of white across the chest, below white banded with chestnut. The Indian species has been kept at the London Zoological Gardens.

The White-legged Falconet (*Microhierax melanoleucus*). Above bluish-black, under surface white. This tiny Eastern species, and the next one, require artificial heat, at any rate in the winter; they are certainly delicate, but if they can be acclimatized they make most delightful birds in a small aviary. They feed entirely on worms, beetles, moths, small lizards, and will eat small fish too. Both species have been seen at the London Zoological Gardens, and I once kept a specimen of the Pigmy Falcon, but it did not live long.

The Pigmy Falcon (*Poliohierax semitorquatus*). Blue-grey above, forehead, cheeks, rump and under parts white; habitat Central Africa.

The Kestrel (*Tinnunculus alaudarius*). The Common Kestrel is too well known, both in captivity and in a wild state, for any description of it, or its habits, to be necessary. The most plentiful of British Hawks, its range extends as far east as China and as far south as Mombassa in East Africa.

The Lesser Kestrel (*T. cenchneis*). Claws white, back of male spotted. Very similar in habits to the Common Kestrel, but particularly hardy in confinement. It is widespread over the African Continent, and reaches the Pyrenees. Other species of Kestrel (*T. gracilis*), the Nankeen Kestrel (*T. cenchroides*), the American Kestrel (*T. sparverius*), and the South African Kestrel (*C. rupicola*). The last species I have kept for several years. They want a dry enclosed aviary (unheated) for winter. All the Kestrels are long-lived in confinement.

The Red-footed Falcon (*Erythropus vespertinus*) has been kept

ford, but I do not think elsewhere. The male is blue-grey, tail brownish, thighs chestnut; the female is barred with blackish above, head, nape and under parts rufous. Legs and feet red.

The Hobby (*Falco subbuteo*). Fairly often seen in confinement. The Red-thighed Hobby (*F. femoralis*). I have had a pair of these beautiful little South American Hawks for over two years. They have shown no signs of breeding. They have to be kept shut up in winter as they are not hardy. I do not think this species has been previously kept in confinement.

The Eleonora Falcon (*F. eleonoræ*). Everywhere dark brown inclining to black, tail brown. The late A. E. Jamrach imported these Falcons as far back as 1860. One of these birds lived at Northrepps till 1867, and there is a beautiful picture of it by Wolf, the great animal painter, when it was in entire bright Hobby-like plumage. The very similar Ash-coloured Falcon (*F. concolor*) has been kept at the London Zoological Gardens. Other species which have been kept in confinement are the Rufous-throated Falcon (*F. rufigularis*) from Mexico and the Orange-thighed Falcon (*F. fusco-cærulescens*) also from South America. The Merlin (*F. æsalon*) is a lively and interesting little species in captivity, constantly uttering its shrill note when excited or alarmed. There seems to be no reason why this bird, which nearly always nests on the ground, should not breed in captivity if suitable accommodation was provided for it. Young birds taken from the nest and brought up by hand make delightful pets, but they must be kept in an indoor aviary large enough for them to have plenty of exercise in during the winter. I have never, however, found this species very long-lived. The Peregrine (*Falco peregrinus*): this well-known bird has been kept at one time or another in most private collections of Raptorial birds. Perhaps I have been unfortunate, but of the six or seven I have kept only one was what may be called a satisfactory bird. Like so many of the British Hawks, unless reared from the nest they are probably brought to one after having been injured or caught in a trap and therefore are slightly damaged, as unfortunately the Peregrine is one of the most persecuted of the birds of prey. I always feel a Peregrine is in a wrong place in an aviary, however large a one. It is essentially a bird of the air, and anyone

who has seen it stooping at a Pigeon or a Teal, or dashing with tremendous courage and fierceness at an intruder molesting its nest, must realize that a wild Peregrine is a very different bird from one cooped up in an aviary. It may be said to be one of the oldest birds kept in confinement, as it has been used in Falconry from very remote times.

The Lanner (*F. feldeggi*). Above ashy-brown mottled with fulvous, whitish crown and lower surface mottled with brown. Many have been kept in confinement. The longest record that I have is six years, but it may have been kept for a longer period at the Zoological Gardens. This Falcon is greatly used in Hawking by the Arabs. Other closely allied species which from time to time are seen in captivity are the Black-cheeked Falcon (*F. melanogenys*) from Australia, the Bearded Falcon (*F. biarmicus*) from South Africa, the Barbary Falcon (*F. barbarus*) and the Juggur Falcon (*F. jugger*) from India.

The Saker Falcon (*Hierofalco saker*). Head pale rufous, upper surface pale brown, all the feathers margined with rufous, tail pale brown, under parts whitish. Has been kept at Lilford and more than once in the London Zoological Gardens. A young female in the Society's collection some years ago was almost as dark as a *Falco subniger* and had the mantle of a very similar hue. This bird had been brought from Alexandria in Egypt.

Two species of the Arctic Falcons are fairly often imported. These are the Greenland Falcon (*H. candicans*) and the Iceland Falcon (*H. islandus*), but I can find no authentic record of the Gyr Falcon (*H. gyrfalco*) ever having been kept in captivity; though in 1841 Lord Lilford obtained a Falcon which he considered to be this species, it was captured at sea off Cape Finisterre.

Family Pandionidae, distinct character. Outer toe reversible, tail closely feathered.

The Osprey (*Pandion haliaëtus*). Above dark brown, crest, head and lower parts white. Has been kept at the Zoological Gardens, but I have no other records of it, and it must be very seldom imported.

LOVEBIRDS

By MRS. PRESTWICH

(Continued from p. 150)

AGAPORNIS PULLARIA

The Red-faced Lovebird of West Africa was described as long ago 1758, and has had a number of names bestowed upon it, such as "Little Red-headed Parrakeet", "Guiney Sparrow", "Red-headed Guinea Parrakeet", "Ethiopian Parrakeet" and *Agapornis xanthops*. It is generally regarded as being the most difficult of the family to acclimatize, though when this is accomplished it is acknowledged to be fairly hardy. Certainly when first imported the mortality is very high. On arrival they look very well and seem pretty tame, but this is induced partly by the crowded travelling conditions and partly by their each having a clipped wing. Why this bird alone amongst the lovebirds should be clipped is a mystery. It is best to keep them caged and let them moult the stumps naturally; but if an attempt is made to draw them great care should be exercised, as any sudden shock may prove very injurious to this highly sensitive bird. Only two or three quills should be drawn at a time, the operation being repeated at the end of a week. They are frequently brought over from Africa on rice with the husk, but, in the absence of this, ordinary rice will do just as well. They take readily to white millet and canary, the former generally being preferred. Some will also eat a little sunflower and a few oats. Fruit they do not seem to care for, except occasionally a little sweet apple. Little trouble will be experienced with this species if it is kept caged until full-winged and is not put out of doors until May is well advanced. They can then be left out the whole year.

Red-faced are rather uninteresting aviary birds as they spend the greater part of their time sitting in a group in the shelter, seemingly liking the glare of the sun. Occasionally, however, they have bursts of energy, when they see how much damage they can do, stripping a tall tree in an incredibly short time. In flight they are a joy to behold, possibly being the most beautiful of the family in this respect. They are quite easy to sex, the under wing-coverts being black in the male and green in the female; the hen can also be distinguished by the

paler colour of her face, it being more of a yellow-orange than orange-red, also the blue spot on the rump is paler than in the cock.

Although this bird has been known to aviculturists for so long, and has been exported to Europe in such numbers as to make it comparatively scarce in its own country, no record exists of it having been bred in captivity. Mr. G. C. Porter very nearly succeeded in 1904, but he was unfortunately away at the time, so was unable to give many particulars. They nested in a small box with half a cocoa-nut husk cemented inside. On his return he found two fine youngsters, fully feathered, lying dead on the ground. They were very fat and appeared to be as large, if not larger, than the old birds. He attributed his failure either to the mice which infested the aviary or the excessive heat at the time. The young of this species are like the adult female except that the forehead is yellow, with no orange tinge, and the yellow-orange near the base of the bill and on the throat is paler. In 1880 Mr. W. T. Catleugh put some into a large cage, and almost immediately a hen took possession of a cocoa-nut husk and began to lay eggs. Some Budgerigars in the same cage, however, threw them out. Eggs were obtained both by Mrs. Anningson and Mr. R. Phillipps in 1902 and by Mr. Shore-Baily in 1915. There have been several instances of partial success in Germany, which show that the clutch is from three to five eggs, which the hen alone incubates for about twenty-one days. The young in down are scantily covered, white, with pure white feet and beak. Concerning their life in the wild, Mr. George Bates (*The Ibis*, 1905, p. 89) writes :—

“ They resemble miniature Parrots in their tones and actions, as well as in their appearance. They go about in small flocks, making little metallic squeaky cries, which yet have something in them recalling the screams of Parrots. They like open country, and especially the tall grass called ‘ ukaé ’, from which they get their Bulu name of ‘ Kôs-ukaé ’ (‘ Kôs ’, meaning Parrot) ; hence they are more common inland, for grass is scarce within a hundred miles of the coast. At the back of my house at Efulen was a sort of wild fig-tree, and when its fruit was ripe a flock of these little birds often visited it. Among them were apparently young birds, which would sit on a limb making a great racket and fluttering their wings till the others brought them food.”

In the wild state they apparently lay their eggs in a nest in a hole in a tree, though definite observations on this point are lacking.

Red-faced Lovebirds agree well together and with kindred species, but are not to be trusted with small passerine birds.

ERRATA.—Page 149, line 8. For fertile *read* infertile.

(*To be continued.*)

THE SMALLER MACAWS

By E. MAUD KNOBEL

A great deal has been written from time to time on the larger Macaws, but I wonder how many aviculturists know the fascination of the smaller Macaws and what charming and delightful pets they can make. There are some six or seven different species of the smaller Macaws, including the Spix, a very beautiful species, of delicate blue and grey in colour. All the others are green with bright patches of colour about them. They vary greatly in size, even those of the same species. Mine have the same food as the Amazon Parrots, i.e. equal parts of giant canary seed and white sunflower, mixed with a good green mixture containing wheat, oats, dani and maize. When young they require bread and milk, and even when adult I give it to them now and then. Of course, water and fruit, chiefly apple, dry biscuit, toast, and pea-nuts.

I must confess that for years I looked at these Macaws and found they left me "cold". The ones that one generally saw in dealers' shops did not seem to me to be very interesting. They never seemed very tame or friendly, nor did they show very much intelligence, and it was a long time before I was attracted by them. Then one day, going into Chapman's, I saw a tame Severe, which came on to my hand and allowed me to do what I liked with it. He very soon made a conquest of me. The dark green of his plumage with the brilliant scarlet on the inside of the wings, the darker red on the under side of the tail made him a most beautiful and attractive creature. I longed to possess him, but hesitated on account of his voice. I had always understood Macaws could scream and were unendurable in a room.

I finally decided to go and consult the Zoo on this point. Their opinion was that they did not think he would be more noisy than many of the Amazons, so I decided to risk it and returned post haste to Chapman. Alas ! how often one has missed things by hesitating. It is fatal in the bird world. If you see something and want it you must have it now and never pause to think. When I got back to Chapman's, and I had only been away half an hour, the Severe was sold and destined for his home in India. However, before he departed there he was put on deposit at the Zoo, where I had an opportunity of visiting him several times. What happened there I do not know, for he was not on show to the public and was kept in the inner room, but somehow this affected his temper and one day when I put my hand up to take him out he bit me through the finger. This was a surprise I did not expect, and after that I never touched him again. The head keeper, who was not there when this happened, could hardly believe it, and took him out to show me he was mistaken I was, whereupon he flew at him and bit him through the lip. I have often wondered whether in India he recovered his previous good temper. After that I began to "cool off" Macaws, and it was some time before I thought of possessing one.

Then one morning as I was dressing I heard the voice of a Parrot across the square. I thought to myself, "Well, someone else must have set up a Parrot and put it in the window." Its cries were incessant, and after a time they seemed to come nearer, but even then it did not occur to me that it was an escaped bird. It was not until after breakfast when I was just starting to clean and feed my own birds, that the cries of the Parrot seemed suddenly to have come close at hand. I looked out of the window and there on our balcony rail was an Illiger Macaw and a woman on the next balcony with an enormous broom. How she hoped to catch it with a broom was a mystery. I immediately ran down to the balcony, and I heard the woman say, "Ah ! Now she will catch it." I put a Blue-fronted Amazon that was in the room on the balcony hoping that that would attract it while I went for an empty cage. This I soon procured, and returned, having put plenty of food at the bottom of the cage. I need not have bothered much, for no sooner did the little Illiger see the cage than he ran straight into it and was very glad to find himself once more in safe quarters. By this time there was

te a crowd below the balcony, and as I turned to go in two people
ne round the corner each armed with a cage, and great was their
appointment when they saw that he had already been successfully
ured. He turned out to be a dear little friendly bird, and soon
de himself quite at home and had a good square meal. He was in
e condition, but had a damaged foot. Of course, whenever one finds
thing these days one has to give notice to the police, and this we
y did, but I must say I did hope that no one would claim him.
o days went by and nothing happened, and I was really beginning
think he was safely mine when one evening a policeman arrived with
orking man and his wife, who said they had lost a little Macaw.
ent down and saw them, and when they described the injured foot
new all my hopes were gone, and I sadly went up to fetch the bird.
ver shall I forget the scene that followed, the joy of that woman and
bird. She put it round her neck and kissed it over and over again.
nother having found her long lost child could not have been more
ghted than was this poor working woman. The man then explained
y they had no children, and he had saved up and bought the bird
n Chapman because she was so lonely while he was out at work.
y lived in a tenement in Somerstown and the bird had never been
cage, but was allowed to wander about the room free. The woman
thrown up a window to speak to a child in the street, and the bird
taken fright at something and darted through the window and
gone in a moment. It apparently had been out three days before
ught it, so no wonder it was glad at the sight of food, though I still
vel that it so quickly went into a cage when it had not been used to
. And what touched me more than anything was that the man
red to *pay* me for the care I had given it. However, I gave them some
ice and told them if they wanted to keep it always loose about the
m they had better cut one wing—that would make it quite safe, and I
e them the old cage that it was in. They went away a very happy
, and a big smiling policeman looking on.

Well, that little bird quite decided me that when opportunity
red I *must* have an Illiger.

However, it turned out that a Severe was to be my first venture
o the Macaw world. I was at Chapman's one day when a lot of

Parrots arrived, and amongst them a most beautiful specimen of Severe or Brown-fronted Macaw. Why they should be called Severe I cannot imagine. He seemed in perfect condition and talked a little. I was told by the man who brought him over. But all he seemed to say was "Buck up". I carried him home in triumph, and for a few hours he was very happy, but my happiness did not last, for my beautiful bird seemed to be drooping and ill; he would not eat. I went back to Chapman and learned that the consignment had been beautifully brought over and well housed as far as Havre, but there they had had to tranship, and for the last part of the journey the birds had been put on the deck and many of them had caught a severe chill. By that time Bucky, as I called him, seemed very ill indeed; he could eat nothing and seemed to be in pain and suffering from stoppage. I tried a good dose of salad oil, an hour after I tried castor oil and put him on a hot bottle and kept him in my lap near a fire. Then I tried a dose of Glauber salts, which had the desired effect, and then he tried a little warm bread and milk. After that I knew I had saved him, but it had been a "near go", and had he been left in the shop or gone to some one who did not understand, his life in England would have been indeed brief. He has just turned out one of the greatest successes one could ever had. He literally adores me. Overjoyed when I come into his room and hysterically ecstatic if I go near his cage, and cries when I leave him. If he is out, which he often is, playing on my swing dog chain, he is only happy on it for a short time and then flies on to my shoulder, letting himself slide down until he lies like a baby on my back on my lap. That is his favourite place, and he will remain there for hours while I try and answer inquiries of the Society on what to do with a Parrot who has plucked himself bare, or why we cannot supply sample copies of the MAGAZINE, etc. Bucky never knows a dull moment; he is the merriest bird of all my collection, always busy about something, either swinging in his swing, playing with a piece of chain, or lying on his back at the bottom of his cage playing with a piece of wood and laughing to himself all the time. He talks quite a lot, but not real words, and he tries desperately hard to whistle. Do Macaws whistle? I have an idea they cannot. Anyway, he is a great success.

My next venture in this line was an Illiger. On looking through a lot of packing cases filled with Amazon Parrots at Chapman's, I saw that three of them each contained one Illiger Macaw. They were the most miserable birds. One was almost bare of feathers and in a very poor way. The next was a little better, but wild and inclined to bite. The third was also a little misery, soiled all over by the droppings of the bigger birds, and every time he tried to feed a Blue-front gave him a savage peck and he retired to the back of the crate. All he had managed to exist during the long voyage over. I brought him home, and really when I looked at him I almost felt ashamed of him. He had no wing feathers and no tail whatever, and was a thoroughly miserable creature. In fact, during the week that followed he was several times asked if he was dead yet?

The first thing I did was to feed him up on good boiled maize, bread and milk, apple, and Parish's food in the water. Then I washed him in warm water and put him by a fire to dry. At the end of a week he began to put on some flesh and fill out a bit, and his plumage began to look a little less like wire and to take on a more silky appearance. He soon proved himself an amusing little beggar, and very soon took to water like a duck. Now the Severe Macaw never bathes, and hates being sprayed or anything to do with water. Not so the Illiger. He will get into quite a big basin and literally lie down in the water, first on one side and then the other. He often gets so wet that I have to run on the gas-fire to dry him up a bit or else roll him in a towel. He is quite different in character to the Severe, though he loves playing out, and will run about the floor as quick as lightning, and likes being on the floor, which the Severe does not. He gets into the waste paper basket and will carefully take pieces of paper out and strew them over my floor. I have sometimes come in and found my floor looking like a snowfield covered in white envelopes from members of the Society. He has one horrid habit, and that is he likes to come and nip you a nip in the back of your ankle. I think it is only play : still he nips. Now he can say quite a lot of words, but mostly talks in a low whisper. I have heard that whispering is one of the characteristics of Macaws. Is this so? He constantly asks "What are you doing?"—and is so fond of the word "doing" that he will repeat it half a dozen

times before answering "I'm busy". When I first had him he showed no red on the lower breast and very little on the rump, and only a few feathers or so on the frontal. Now, of course, he is perfect, with his plumage glossy like silk, far more so than the Severe. This I put down to the constant bathing. But his tail is his weak point. He seems to grow the feathers and then they break off or are malformed. I suppose why people do not keep Macaws more is their voice, for they have many voices and can use them. Taking them all round they are no worse than a Ring-neck or an Alexandrine, but they can be persistent, though I have always found a remedy to stop it, either covering them over or letting them out. But, like all the Parrot tribe, they generally like a good scream about sunset, when, in a wild state, I imagine they are returning to their roosting-places for the night. The two I have are far more gentle and reliable than most Amazons, and there is no doubt about their devotion to one. I have several times had an opportunity of seeing very tame and charming Spix Macaws. Of the smallest of all this tribe there is a delightful little specimen of the Noble Macaw now at the Zoo. It is very tame and talks a little in spite of a defective beak. It is a beautiful little bird, not unlike a miniature Severe though the head is very different, but the scarlet on the top of the head and inside the wings gives it a very striking appearance. Of the other smaller Macaws at the Zoo there is a nice Yellow Collared one but he always seems rather a dull bird, perhaps it is because he is rather high up and one cannot get at him to pet him. But the pair of Illige that live at the end of the house are really a fine pair of birds. One wishes they could be seen in an aviary where an attempt at breeding might be tried. They are most amusing in the way they play with each other, and the other day when I was watching them the cock was feeding the hen. They are not tame, and will not allow one to touch them. This is probably because they are sufficient unto each other.

I have written these few remarks in the hope that others who may have kept this group may be induced to give us their experience and so help to widen our knowledge.

THE TRAGOPAN'S DISPLAY

The male of the Horned Tragopan (*Tragopan satyra*) has the head mostly black, the neck and the whole of the under surface bright orange-carmine, the back and tail being brownish. Over the whole of the body plumage are distributed spots of white, with black edgings. The skin of the throat is blue, more or less obscured by black hair-like tuftures. A peculiar wattle is situated on the throat, but this is so contracted as to be invisible except on such rare occasions as during the courtship display. The same may be said of a pair of wattles growing from the top of the head, which are completely hidden by the plumage except on rare occasions. The female of the Tragopan is of an inconspicuous mottled brownish hue. During the breeding season the cock Tragopan may frequently be seen to perform a lateral display, walking round the hen with his tail and body plumage more or less depressed laterally, a form of display that is common to many pheasants. But the full frontal display of this bird, which is seldom seen, is one of the most remarkable exhibitions in Nature; quite as extraordinary a transformation as that of the display of either the Argus pheasant or the Great Bustard.

For the past twenty years and more I have known Tragopans in captivity, but only on rare occasions have I seen the full display, and I will endeavour to describe what I saw on a recent occasion, and only regret that no description can adequately convey the thrill that this wonderful spectacle gave me.

The hen Tragopan was walking unconcernedly out into the open and I had not noticed the cock bird in the darkness of some undergrowth in the background, until suddenly out he came with a run, his body erect, with the white-spotted carmine feathers of the breast and flanks spread out like a skirt; his black face surmounted by two erect horns of vivid verdeter blue, and from his throat a large bib of intense blue, barred with red. Thus he ran forward looking like a little Mephistopheles. Probably he saw that he was being watched, for he soon stopped, shook his head, and both horns and bib quickly contracted and disappeared, and the Tragopan became once more a normal bird.

These peculiar wattles on the head and throat are found in all the species of Tragopans, and no doubt the display is similar in all, though the colours and patterns differ in the various species.

D. SETH-SMITH

NOTES FROM MY AVIARIES

By CAPTAIN REGINALD WAUD

The birds in one's aviaries at this season are so very interesting that I thought some members might like to hear of my doings.

One aviary, inhabited by small Finches, so far is doing very well. One pair of Three-coloured Parrot-Finches have built the most attractive nest. They took to a box nest made from a stump of a tree, hung on the wall, with quite a small hole for them to get in and out. They completely filled this with fine grass, twisting the grass round the small entrance hole in the most wonderful way, making it impossible for one to see in, so that I have no idea if there are even eggs in it, but I feel pretty certain there are, as the hen is sitting tight.¹ I hope in the course of a few days I may hear the voices of young birds. A second pair of Three-coloured Parrot-Finches laid seven eggs in a nest on the wall, and then started to build. They covered all the eggs and eventually forsook the nest, and I felt they were pretty hopeless from the first. They then started a half moult, and now have recovered and are in fine condition, and I hope they will go to nest again before the end of the season. I have two pairs of the ordinary Parrot Finch both nesting, and the eggs should hatch in a few days. Diamond Doves also are sitting in this aviary. I find my pair very free breeders.

In another aviary I have a pair of Shamahs; the hen is sitting on five eggs. As soon as these hatch I intend opening the door of the aviary into the garden and letting the cock out to find live food for the young.

My Blue Birds in another aviary had a nest of five eggs, but unfortunately a mouse got in and ate all the eggs. They went to nest again about a fortnight after this calamity, and now the hen is sitting on five eggs.

¹ Since the above was written three young Three-coloured Parrot Finches have left the nest, (12th June).

n. As she has changed her nest-box to a much more secluded place, which I trust is impossible (if any place can be) for a mouse to get at, I hope she may bring off some young. Last year I had no luck with this. They will feed the young on nothing but live insects, and unfortunately will not touch gentles—nothing but mealworms—and I find they will not thrive on only mealworms, but must have live ants, caterpillars, grasshoppers, etc.

In another aviary I have a beautiful pair of Royal Starlings. These have been seen carrying grasses, but so far there are no signs of anything new. I also have seen the Niltavas doing the same thing, but as the season is not very far advanced, I hope they will progress farther.

I have only one Spreo Starling flying about. The old hen only laid two eggs, and one young one died when only a few days old. The hen has started building again, and probably will do better with the second lot.

Several species of Broadtail Parrakeets are nesting. The Golden-crowned Conures are again nesting this year and have laid two eggs. A pair of White-cheeked Conures are very interested in a log nest. I hope they will do something.

I have been very lucky this year with all nesting birds. I have never had any trouble over egg-binding, and this I put down to always giving them cod liver oil and glycerine in their water when I see them starting to nest. I believe it to be a most excellent thing, especially in this very changeable season.

AVICULTURAL NOTES

By the EDITOR

Some fifty members of the Society accepted Mr. and Mrs. Ezra's invitation to spend the afternoon of Saturday, 28th May, at Warren Park. The weather was delightful, and much time was spent in viewing the wonderful collection of birds in the aviaries and birdroom. After tea a visit was paid to the large enclosure of about 45 acres, in which one saw Antelope, Deer, Patagonian geese, Kangaroos, Cranes, Pheasants, Brush Turkeys, and Chukar

Partridges under very natural conditions. A Monaul hen Pheasant was seen with her newly-hatched chicks, while another was sitting on her nest on the thatched roof of a shed.

Our members will be interested to hear that Mr. Herbert Whitley has opened his fine Zoological Collection at Paignton to the public, and all who visit South Devon should make a point of seeing it. Besides being an expert aviculturist and possessing a superb collection of rare foreign birds, Mr. Whitley has a large number of mammals and a remarkable collection of the choicest domestic stock, of Rabbits, Pigeons, Cavies and so forth.

In the King's Birthday Honours List appears the name of David Elias David Ezra, late Sheriff of Calcutta. We very heartily congratulate Sir David, the brother of our President and member of our Society since 1912.

The Scarlet-chested or Splendid Parrakeet (*Neophema splendida*) of Western and South Australia, the most beautiful of a beautiful genus, has always been regarded as a great rarity, and for several years has been thought to be extinct. Now a few examples have been noted in New South Wales, so that although extremely rare it appears to have a very extensive range and may hold its own. A good coloured plate of this species appears in the *Emu* for April, 1927.

Another of the nearly extinct Parrakeets of Australia and perhaps an even more wonderful one than that first mentioned, has also been recently noted in New South Wales, namely the Paradise or Beautiful Parrakeet (*Psephotus pulcherrimus*). A writer in the *Emu* describes the appearance of a little party of five of these, driven out of their ordinary habitat by the drought which has recently been very severe in the interior.

It is much to be hoped that the Australian Ornithologists' Union will use their influence to persuade the Government to take up seriously the question of breeding some of these fast disappearing Parrakeets in suitable aviaries in Australia. If put in charge of competent aviculturists, there is no reason why some of these birds should not be saved.

Mr. Heumann contributes some interesting Bird Notes to the current number of the *Emu*, and from these we extract the following :—

“ The rarer species of Parrakeets could be bred most assuredly in numbers if aviculture were not looked upon as vandalism. Turquoise parrots are supposed to be almost extinct. As a fact, when I lost my last bird of this species I had to pay £30 for another specimen. Out of the young which I reared, my friend, Mr. Harvey, jun., of Adelaide, has a pair of them, again reared eight young this season in two broods of two pairs each. Mrs. Mellor, of Adelaide, bred about a dozen Princess Alexandra Parrots ; so also did Mr. Lienau. Out in the open the birds have not nearly the same chance, as Hawks especially do havoc amongst them. But catapults and pea-rifles and the scientific and unscientific egg-collectors do their share in the speedy extermination of anything that may be rare.”

Mr. James Charles Edwards, of 629 South Grand Avenue, Los Angeles, California, is probably the largest breeder of Budgerigars in the United States. Commencing about fifteen years ago with one hundred pairs, he has now 1,500 pairs. His aviaries are 100 feet by 100 feet, divided into ten compartments, each housing ten breeding pairs. He is also breeding Blues, Whites, and other varieties.

Besides the Budgerigar aviaries Mr. Edwards has others in which he is breeding Bleeding-heart, Cuban and other species of Doves, Pouter-birds, Redrumps, Lorikeets, Pennants, Blue-wing Grass Parrakeets, and several species of Lovebirds, as well as many of the ornamental finches, and he greatly prizes some Tabuan Parrakeets given to him by the Marquess of Tavistock for experimental purposes.

We are very pleased to receive a copy of the first issue of *The Budgerigar Bulletin*, published by the Budgerigar Club. In it will be found much useful advice and many valuable tips for those who would produce the various colour variations to which this most wonderful of Parrakeets is subject.

Those who are rearing Budgerigars should remember that a weak youngster, providing he is not denude of flight-feathers, if caged and petted will become perfectly tame and make the most delightful bird pets. He will delight to sit on one's head, shoulder or hand, and will actually repeat several words with very little training. A talking Blue Budgerigar will delight all who come in contact with him.

REVIEWS

BIRDROOM AND AVIARY ¹

The older members of the Society will recollect the instructive and often humorous writings that appeared in our MAGAZINE a good many years ago by the Rev. C. D. Farrar and will welcome the appearance of a new book on his reminiscences as an aviculturist. It is full of delightful humour and sound advice, and he does not mind record his failures as well as his successes. His accounts of interviews with the dealers of the past will bring back vivid memories of some of his old friends of twenty years ago, such as Joseph Abrahams, of St. George Street, East, and Maschke, of Islington. He reminds us of the low temperature and lack of ventilation of the latter dealer's shop, which those of us who visited it will recall. But both Abrahams and Maschke sometimes had birds which we never see nowadays. From Abrahams Mr. Farrar bought a pair of Poes, better known perhaps as Tuists, but they are not Australian birds, as we are told, but New Zealand.

Mr. Farrar's reminiscences go back to the time when Turquoise could be obtained without much difficulty, and that is a long time ago. He was fortunate enough to obtain two pairs, both of which he lost, though one nest full of young birds died through the cock-bird feeding them on elder. He tells us that for some years he was not without Turquoise, but not knowing what was coming he sold them all, as many other people did. Now they are on the point of becoming extinct.

Aviculturists will find much to interest and amuse them in Mr. Farrar's book.

¹ *Birdroom and Aviary* : Trials and Triumphs of a Yorkshire Parson, by Rev. C. D. Farrar, M.A. London : F. V. White & Co., Ltd., Link House, Greville Street, E.C. 1. Price 6s. net.

HOW BIRDS LIVE¹

Although this is a small book and produced at an extremely low price, it is one of the most interesting books we have read for a long time. Why do birds sing? Why migrate? Why do some species require considerable area of territory for each breeding pair while others nest in colonies? Such questions may never have occurred to some of us, but they are of great importance, and are ably discussed by the author, who has for many years made a special study of these problems. The book, in short, is the view of an observer who has carefully studied the writings of the latest and best observers and put them thoroughly to the test. The territory theory, for instance, for which credit is due to Mr. Eliot Howard, applies to such birds as the Warblers, which have a very restricted feeding area, but does not apply to those which range far afield for their food. Gatke's theory of the speed and altitude of flight during migration has been shown by recent observers to be at fault, the movement of birds at such time being much like that at other times, but in a straight line and towards a definite goal.

RARE BIRDS FROM THE EAST

On Mons. Delacour's recent return from Indo-China and the East he brought with him a collection of very rare birds, amongst which the following are especially worthy of mention:—

- 2 pairs of Rheinardt's Argus Pheasants.
- 1 pair of Ghigi's Peacock Pheasants.
- 2 pairs of Merlin's Wood Partridge.
- 3 pairs of Cognacx's Wood Partridge.
- 1 pair of Fytch's Bamboo Partridge.
- 1 Daird's Jay-Thrush.
- 1 Pasquier's Jay-Thrush.
- 3 Renauld's Ground Cockoos.
- 1 pair of Bornean Argus Pheasants.
- 2 pairs of Bornean Crestless Firebacks.
- 2 pairs of Charlston's Wood Partridge.

¹ *How Birds Live*, a brief account of Bird Life in the light of modern observation, by E. M. Nicholson. London: Williams and Norgate, Ltd., 14 Henrietta Street, W.C.2. Price 3s. 6d. net.

- 2 Lesser Birds of Paradise.
- 2 Greater Birds of Paradise.
- 2 Magnificent Birds of Paradise.
- 2 Wilson's Birds of Paradise.
- 1 Twelve-wired Bird of Paradise.
- 1 Spider-hunter and 7 Flower Peckers.

CORRESPONDENCE

THE AMERICAN SISKIN

SIR,—With reference to my notes on the American Siskin in the last number of the MAGAZINE, I have looked at the illustration of *Chrisomitris aristis*, mentioned in your footnote, and my birds certainly do not belong to this species. They much more closely resemble the Black Siskin, *C. atrata*, found in Bolivia and North Peru. They differ from this bird by having much more yellow on the under parts, by the wing bar being white instead of yellow, and by the hen having the nape of the neck greenish-yellow instead of black. I shall take the first opportunity of examining the skins at the British Museum as they have been unable to name it for me from my crude description.

W. SHORE-BAILY.

MATURING OF THE SNOWY OWL

SIR,—Bowdler Sharpe, in *British Birds* (Allen's Naturalist's Library) vol. ii, p. 85, says, "There can be no doubt that the Snowy Owl becomes whiter with age, and that the very old individuals lose their markings almost entirely, though it is a question whether the females ever become perfectly snow-white and lose their spots and bars." I should therefore like to record that the oldest specimen in the Zoo, which was received several years ago in the barred plumage, became *at its first moult* in the Gardens nearly if not quite as free from dark markings as it is at present. It will be interesting to see how its recently received and well-barred companions moult out, and those who practise photography would be doing useful work in recording their progress.

FRANK FINN.

WHITE BUDGERIGARS

SIR,—If you think it of enough interest for the AVICULTURAL MAGAZINE, I should like to report that I have two White Budgerigars fully reared and flying in my outdoor aviary. The parents are a Blue cock and a Yellow hen, quite a different cross from the pair who bred Whites last year in my aviaries, these were two Blue-bred Greens. There were also in the nest two rather Olive Green and a Pale Yellow, and the hen is now incubating five more eggs.

ALICE CHATTERTON.

NESTING OF LOVEBIRDS

SIR,—Following on Mrs. Prestwich's very excellent article on the Lovebirds, may I offer a few suggestions arising from my own experience which may be of help to breeders? My chief trouble, in common with others, has been young dead in shell. I refer to the Nyasa and the black-cheek.

Mr. Denys Weston recently published an account of an ingenious contrivance for retaining moisture in the nest. For it is probably a fact these species affect in nature damp situations. Anyhow, I have so far shirked the operation of re-modelling my nesting boxes, and have resorted to an alternative which appears to answer the purpose well enough.

Upon the floor of the aviary I set a shallow pan of water and ranged therein a supply of the leaves of spinach-beet or kindred vegetable. The birds eat this greedily, but in addition they carry off the wet leaves and arrange them about their eggs. By this expedient I have hatched this spring a large percentage of the eggs of both species, and the young show a much decreased mortality. The water in the pan must be renewed daily, as spinach-beet soon fouls it. The nesting material most in favour is the bark of willow twigs, and I find, too, that the sort of wood shavings used in parcels is acceptable. Be sure not to use aluminium rings on these birds. They work them over the tibia, and swelling and gangrene rapidly set in.

I have now three pairs of the Abyssinian Lovebird (*A. taranta*) nesting. These birds were with me three years without attempting

to nest. One pair have three young three weeks old. They used no nesting material of any sort. I could not see that the cock took any part in the incubation.

My Masked Lovebirds (*A. personata*) have gone to nest within five days of their arrival. They are constructing rather stout edifices of twigs, not bark, in the boxes. Being rather large birds, the nesting boxes should be of generous proportions. So far, this species has refused to have anything to say to green food, which I shall nevertheless continue to offer.

M. T. ALLEN.

DESERT BULLFINCHES AND OTHERS.

SIR,—I have just bought Dr. Hopkinson's book, *Records of Birds Bred in Captivity*. I see that there is only one record of the Desert Bullfinch for the United Kingdom. I reared two nests of them last year. Two young birds each time. The first nest contained four young, but when the first two left the nest I went to clean out the box and frightened out two others which were still in the fluff, dropping on to the floor from about six feet, one got killed and the other so hopelessly crippled in its legs that after it had left the nest and could fly I destroyed it myself as it could not stand. These were reared in an aviary full of other birds.

I also reared last year two nests of Hybrids of a second generation from a (Hooded Siskin \times Canary) \times (Canary).

Three young left the first nest; one died later. Two left the second nest. In the autumn I caught them up and caged them, where two of them suddenly died. Whether it was fright or not, or owing to the others, as they were not very friendly towards each other, I do not know. I exchanged the two others with another member.

In 1923 I had two nests of Hybrids, Indian Silverbill \times Zebra Finch. Four young left the first nest; one died later. These three all sang so I suppose they were cocks. The second nest only produced one young, as the three young of the first brood always roosted in the nest. It is rather a wonder that any were reared. This bird did not sing and died the following spring, so I sent it up to the Museum as they were asking for any Hybrid birds that might be bred.

Last year I also bred the Chestnut-breasted Finch. Three of the four young are still alive, two of them have almost got their mature plumage, but the third shows no sign of any colour on the under parts yet; there are a few dark feathers on the face, which markings are the first to appear on the young. Otherwise it might be a young *Flavivirgata*.

H. L. SICH.

MONS. DELACOUR'S COLLECTION

SIR,—The first Pheasant hatches at Clères are very promising. The pair of Argus three years at Clères have so far laid five eggs and there are five young, respectively five, three, and one week old. Also Imperial, Edwards', Elliott's, Crestless Firebacks, Crossoptilous, Bel's, Black-crested, Horsfield's Kaliy, and six Cabot's Tragopans. Many more are incubating, as well as Ducks, Geese, and Rheas.

J. DELACOUR.

A HYBRID SWAN

SIR,—Up to the end of April last year, it may be there still, on a small piece of water, the remains of a lake in Corvill Hall, Brentford, just at the eastern end and cut in half by the Great Western Road, was a Hybrid Swan (Australian Black ♂ × Mute Swan ♀). The bird appeared to be mature, and had a black and white spotted appearance. The wings were mostly white, and the neck mostly black, spotted with white, while the body was the reverse. The feet were, I think, very black. The carriage and general shape were more of the Australian than the Mute Swan. The bird belonged to the Brentford Council. I do not think they liked it as it was rather savage.

H. L. SICH.

A PROPOSED LIBRARY

SIR,—Recently I have received a number of applications for the loan of various books on Birds. Probably other members have had similar requests. If so, it would seem there is a need of a library.

Many members must have books they no longer require, or which they are willing to loan. These could be collected together with advantage. If sufficient support is forthcoming I would give Seely's *Parrakeets*, Greene's *Parrots in Captivity*, and sundry other standard works, and act as librarian *pro tem*. Perhaps members would give their views.

A. A. PRESTWICH (MRS.)

OBITUARY

It is with deep regret that we have to record the death, which occurred on 24th June, of Her Grace the Duchess of Wellington, Vice-President of the Society.

The Duchess was a very keen aviculturist and took the greatest interest in the welfare of the Avicultural Society. Her beautiful aviaries at Ewhurst Park were well known to many of our members.

CANDIDATES FOR ELECTION.

- H. ARBUTHNOT, The Hop Garden, Eyton College, Eyton. Proposed by J. W. Marsden.
- J. BELCHER, P.O., Box 234, Suva, Fiji. Proposed by Dr. Casey Wood.
- EC. CHEERS, 6 Kingston Lane, Teddington. Proposed by G. Palmer.
- OFFREY DAVIES, I.C.S., Baylis House Hotel, Slough. Proposed by Dr. M. Ainsler.
- W. GIFFORD, 1650 Vista Street, Oakland, California, U.S.A. Proposed by Sydney Porter.
- PT. LIDDEK GRAINGER, Ayton Castle, Ayton, Berwickshire, N.B. Proposed by Capt. L. R. Waud.
- M. HENRY, 3027 Allen Avenue, Chicago, Ill., U.S.A. Proposed by C. T. Metzger.
- B. JOEL, Maiden Erleigh, Reading. Proposed by Mrs. J. Cottrill.
- OMAS J. KAVANAGH, Tasker Street Wharf, Philadelphia, Pa., U.S.A. Proposed by E. Maud Knobel.
- D. MANDER, Ash Ghyll, Bromley Road, Bingley. Proposed by J. W. Marsden.
- N. MCASHAN, 1144 North Central Avenue, Glendale, California, U.S.A. Proposed by J. S. Greenshields.
- ROBERTS, Bagatelle, Market Harborough. Proposed by E. Maud Knobel.
- OSWALD SMITH, 19 Hill Street, Mayfair, W. 1. Proposed by E. Maud Knobel.
- STRINGFELLOW, 2006½ Sixth Avenue, Los Angeles, California, U.S.A. Proposed by J. S. Greenshields.

NEW MEMBERS.

- BENNETT, Park Terrace, Parkside, Australia.
- MISS JESSIE N. COLLINSSPLATT, Brimptsmead, Princetown, Devon.
- LAN FULLERTON, Polshot, Elstead, Godalming, Surrey.
- ANIEL GURNEY, The Grange, North Runcton, Kings Lynn.
- MISS DIANA GURNEY, North Runcton Hall, Kings Lynn.
- R. W. HAMILTON, Wakefield Street, Adelaide, Australia.
- F. JOPSON, Guff Nook, Barrowford, Nelson.
- LOCKEY, Creighton House, Morpeth.
- MISS M. H. McLINTOCK, The Grove, Catton Grove Road, Norwich.
- RS. W. E. MOSS, Manor House, Sonning-on-Thames, near Reading.
- THE HOTEL PANCOAST, Miami Beach, Florida, U.S.A.

CHANGE OF ADDRESS.

- S. GREENSHIELDS to 225 East Foothill Boulevard, Altadena, Pasadena, California, U.S.A.
- R. BRUNO LUIG to 7 Avenue Eugène, Peasky, Bruxelles.
- RS. W. J. SHANNON to Tan-y-Graig, Pentraeth, Anglesey.

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The charge for Members' advertisements is ONE PENNY PER WORD, and no advertisement must exceed thirty-six words, name and address included. Payment must accompany the advertisement, which must be sent on or before the 10th of the month to Mr. T. H. NEWMAN, "VERULAM," FORTY LANE, WIMBORLEY PARK, MIDDLESEX. All members of the Society are entitled to use this column.

WANTED.

ONE pair, Diamond Doves.—W. H. POLTER, Whetherill, Fitzillian Avenue, Harold Wood, Essex.

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THE AVICULTURAL SOCIETY.

FOUNDED 1894

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ALL SUBSCRIPTIONS SHOULD BE SENT TO THE HONORARY SECRETARY AND TREASURER, MISS KNOBEL, 32 Tavistock Square, London, W.C.1.

All Queries respecting Birds (except post-mortem cases) and all other correspondence should be sent to the Hon. Secretary, at the above address. Any change of address should be notified to her.

POST-MORTEM EXAMINATIONS.

Rule 1.—A short account of the illness should accompany the specimen. Birds to be sent as fresh as possible to Mr. C. H. HICKS, The Prosectorium, The Zoological Society of London, Regent's Park, London, N.W. 8.

Rule 2.—Should any member require an immediate reply, a stamped addressed envelope must be enclosed with the bird.

Rule 3.—No body or skin of any bird will be returned under any circumstances whatever.

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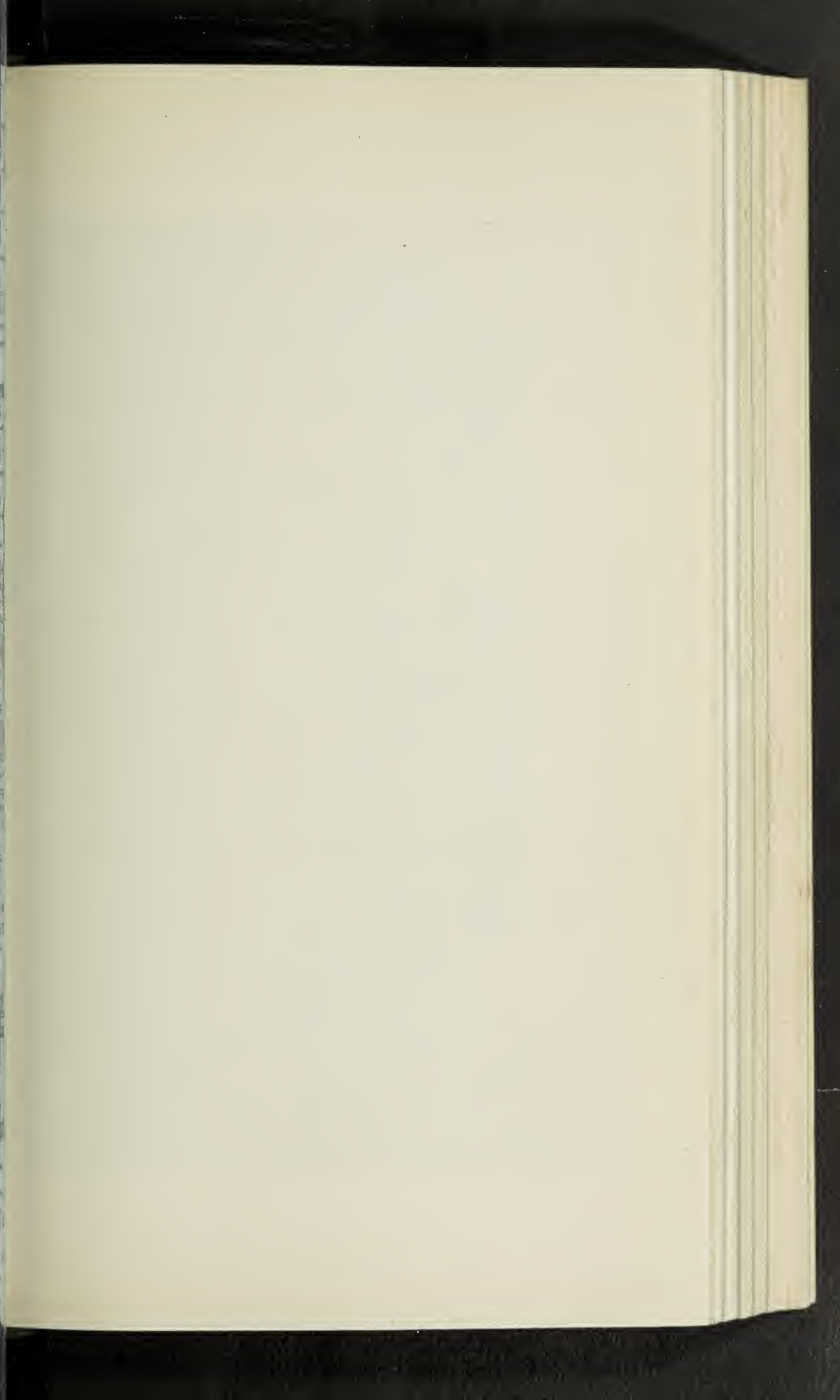
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All communications intended for publication in the Magazine should be addressed to the Editor:—

MR. D. SETH-SMITH,
Zoological Society,
Regent's Park, London, N.W. 8.





THE AVICULTURAL MAGAZINE

BEING THE JOURNAL OF
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FOR THE STUDY OF
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IN FREEDOM & CAPTIVITY

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AUGUST, 1927.

THE BUDGERIGAR AND ITS COLOUR VARIETIES

By D. SETH-SMITH

From my earliest days I have known and loved the Budgerigar. As a child I remember some that were owned by an elder sister and which I thought the most delightful birds in the world. There was something about them that fascinated me then, and they fascinate me still, and I shall always regard this species as the most wonderful of all of the Parrakeets. There is only one species of Budgerigar, and no other species is closely related to it, or has one-half of its charming habits and ways. It has taken to a life in captivity as no other species of Parrot has, and to such an extent has it been bred and reared in captivity that the world is independent of the original source of supply, and if no more ever come out of Australia its numbers in Europe, Asia, and America can be kept up and increased to almost any extent. As everybody knows, the Budgerigar, in its original dress, is of a beautiful grass green, barred on the back, and with the forehead bright Canary yellow. In this dress it occurs in its native habitat, Australia, where it migrates from one locality to another in flocks, following the ripening grass, upon the seeds of which it feeds. Yellow

birds have been noted in such flocks, so it is not to be wondered at that a yellow race was produced in Europe many years ago. . Exactly when these yellow birds were first produced I do not know, but I know that the yellow Budgerigars one saw ten or twenty years ago were of a better and purer yellow than those one sees to-day. Yellow birds are not very popular just now, and this may account for the want of care that has occurred in their breeding. They have been much crossed with greens that most of the birds one sees have much too much green in their colouring. What one wants to see is the tulutino Budgerigar with pink eyes and no trace of green whatever. Such birds have been produced, but the ordinary type of yellow Budgerigar has dark eyes and a green tinge on the rump. The tulutino would lack entirely the black pigment which, together with yellow or orange pigment and peculiar feather structure, gives the normal green coloration.

If the black pigment be retained and the yellow eliminated, one can obtain the beautiful blue variety which we have all become familiar with. How the first of these mutants was produced we do not know, but it was doubtless nothing more than a lucky sport which a fortunate breeder took great care to preserve and to breed from. The first blues seem to have appeared in Belgium in the early eighties, but it was not until the year 1910 that specimens were exhibited in this country. These were owned by a Belgian aviculturist who had established the variety in his aviaries. Others both in Great Britain and on the Continent obtained pairs, and the variety soon became established. With the three colour varieties, green, yellow, and blue, of a free-breeding species, there were great possibilities of producing other colours by judicious crossing, and the results of such experiments are seen in the cobalt, which is perhaps the finest of all, the mauve and the olive. Then there is the white variety which generally shows a considerable trace of blue. At the Zoological Gardens a brood of three of these appeared from blue parents, but it has also been obtained from crossing blue and yellow and mating their progeny. Experimenting with the crossing of the different varieties of this Parakeet is a fascinating hobby, and probably much still remains to be accomplished in the production of new tints.

One has heard of red Budgerigars, but few will be taken in by these vicious fakes. Mr. Chapman recently had some sent to him from somewhere in the East, and he was good enough to send me a pair to see. They were very cleverly dyed an orange red and were of a striking appearance, but a few new feathers were appearing here and there and these were green !

Blue Budgerigars are expensive, and the cobalt variety is more costly than the other, but they can be produced by breeding from green birds that have been bred from one blue and one green parent. Such birds are known as "blue-bred" birds, and provided their parentage is known they may be expected to produce a percentage of pure blues. A blue and a green bird mated together will produce only green offspring, but these are the so-called blue-bred birds and are capable of producing a percentage of blue birds.

When mated together these blue-bred birds should produce 25 per cent of pure blues, 50 per cent of greens that are blue-bred, like their parents, and 25 per cent pure greens that have no power to produce blues. The trouble is that these pure greens cannot be distinguished from the blue-bred greens from the same parents, and here lies the cause of much disappointment.

In breeding blues from blues, although only pure blues will be obtained, the stock is likely to become weakly after a few generations, and so it is always advisable to obtain fresh blood by breeding a few blue-breds, and mating these *inter se*. The blues bred from these will be absolutely pure blooded, and may be used for fresh blood amongst the original stock of blues.

With regard to cobalts, I have had no personal experience, but I understand that blues mated to olive birds may produce birds which in the next generation may produce this splendid variety. Perhaps some of our members who have experimented in breeding these and the less striking though very interesting mauve variety will give us the benefit of their experience.

NOTES FROM PORTUGUESE EAST AFRICA

By SYDNEY PORTER

I was hoping to have written a long and detailed article on the birds of some of the little-known parts of Portuguese East Africa, for on 11th September, 1925, two of us started from Mount Selinda on foot with a number of native carriers, intending to march into the interior of Portuguese East Africa, making the district where the Umvumao and the Sabi Rivers join our headquarters for a time.

The same day that we started we crossed the frontier and spent the night at Spungerbera, a small settlement where a Portuguese Commandant lives; after that our way lay over the dense jungle covered Chimanimani Mountains, until 40 miles further on we reached the great central plains, and in eleven days' time reached the Umvumao River, and there we intended pitching our camp for several weeks in a district which at the best of times is far from healthy. But the hardships encountered en route, terrible tropical storms, trouble with the carriers, illness, bad organization, terrific heat, and last, but not least, acute starvation, rendered me in anything but a mood conducive to observing birds; hence these meagre notes.

The Umvumao is a very wide sand river (about 1 to 2 miles wide in the rainy season), but at the beginning of the wet season is a chain of large deep pools resembling small lakes, covered for the most part with huge water-lilies and fringed with tall and dense reeds. This part of the country was particularly rich in bird life. We saw many birds that I have already mentioned in my notes on Mount Selinda, but the following were noted for the first time:—

THE HADADA IBIS (*Hagedashia hagedash*)

In the early mornings, long before the dawn, we were awakened by a small flock of these beautiful but extremely noisy birds flying over our camp from their roosting-place to their feeding grounds down the river. The noise they make is incredible. I should think the noise made by a large flock would be perfectly deafening. The birds had one special roosting-tree, to which they came in small parties of three or four in the evenings, and departed in the mornings to their respective feeding

unds in the same small parties. The general colour of this bird is
it grey, the wings being metallic bronze green, the tail purple.

THE THREE-BANDED PLOVER (*Ægialitis tricollaris*)

These charming little birds are found in twos and threes in the
ly mornings picking up their food on the sandy flats by the pools ;
y have a peculiar habit of running a yard or two and then stopping
l jerking their body up and down as though courtesying. They
over the sand or mud flats with incredible speed.

Another little Plover, which I believe was the Caspian Plover
gialitis asiatica), was common on the wet sand flats of the
vumaoodzi, where it kept in small flocks, running with great speed
l every now and then probing into the sand with its bill. It was a
y confiding little bird and would come within a few yards of one.

THE SADDLE-BILLED STORK (*Ephippiorhynchus senegalensis*)

I came across these unique birds but once on the dry sandy bed
the river. They are easily distinguished from any of the other Storks
the very peculiar black and crimson upturned bill, and when on the
ag by the pure white under-wing feathers. These birds are far from
nmon in East Africa, and only frequent the low-lying parts of the
ntry in the vicinity of marshes, swamps, and large rivers, where
ey seem to go about in pairs. They are shy and difficult to approach,
ing up at the slightest sign of danger and making wide sweeping
cles in the air, rising higher and higher until they are lost in the blue.

THE BLACK OR SPECKLED DUCK (*Anas sparsa*)

I frequently came across small parties of these Duck on the pools
the rivers, usually five or six together ; they are far from shy and
ll allow one to approach within easy distance of them. The Black
uck does not seem to be very common in any part of South Africa.
person who lived near Mount Selinda discovered a nest containing
e eggs of this Duck, which she placed under a fowl ; the whole five
tched and the Ducklings were dark brownish black, marked with
llow. They were exceedingly tame, far more so than ordinary
ucklings, and would come into the kitchen every day to catch flies.
ey grew up without mishap into delightful pets, but what eventually
ame of them I don't know. I'm afraid that people in general in

Africa don't cherish any sentimental ideas about their pets if they of any utilitarian value.

THE HOODED WEAVER FINCH (*Spermestes scutatus*)

These pretty little birds, so well known in England as cage birds, are very abundant in Portuguese East Africa. I first saw them in small flocks on the ground, searching for seeds around the outbuildings at Spungerbera, a small but pretty frontier station. I also saw them many times on our march into the interior, invariably around old Kalkraals and lands, feeding upon the minute seeds of various grasses and plants. They were exceedingly tame.

THE FORK-TAILED DRONGO (*Dicrurus afer*)

This was the commonest bird that we met with on our trip; in some parts there were hundreds of them and their loud notes could be heard the whole day through. One hears them before any other bird in the morning and last thing at night when all the other birds are at rest. These Drongos seem to take all their food in the air, taking up a position of vantage and making short flights at intervals to capture insects as they pass. I have very seldom seen one on the ground. Sometimes they have singing competitions; two males will alight on a branch side by side and sing with all their might, each one trying to drown the notes of the other.

THE THREE-STREAKED BUSH SHRIKE (*Telephonus australis*)

I met with this rare Shrike several times, at least, I think it belongs to this species. In colour it is ash grey, browner on the mantle, wings chestnut, and the tail black, the throat white, a black streak from the base of the bill through the eye to the nape, the eyebrows light grey. Its habits seemed to resemble in most ways those of the Black-headed Shrike, to which bird it seems to be closely allied. I found this Shrike in the thick bush by the Periwiri River.

THE MELBA FINCH (*Pytelia melba*)

This charming little Waxbill was frequently seen around the Kalkraals and huts either singly or in pairs busily engaged in picking minute seeds. It is a very confiding little bird and its habits resemble more or less those of the very familiar Blue-breasted Waxbill.

THE CARMINE-THROATED BEE-EATER (*Merops nubicus*)

Of all the African birds this is perhaps the most lovely—in colour a mixture of delicate rose pink, of rich carmine, pale blue and green—a glory of the avian world. At the Periwiri River, which is a chain of large, still, lily-covered pools in the dry season, we found these beautiful birds exceedingly numerous. Sometimes when sitting on the low branches of the trees by the river's edge their plumage would assume a burnished copper hue in the brilliant sunlight. At various intervals during the day they hawked for insects high in the air, after the manner of the Swifts, the whole flock mounting higher and higher until they were lost to sight in the blue sky, then they would come down again and fly just over the water, dipping their bills into it and drinking as they flew. Their flight is nothing short of marvellous; they can sail along at an incredible speed, without a motion of their outstretched wings, twist, turn, and stop dead still. Their method of bathing is interesting. They first of all congregate in small flocks on the bare banks near the water, and from there two or three at a time will take a short flight over the surface, suddenly dive down, and immerse their heads under the water, rapidly beating the water with their wings and churning up into a spray and completely soaking the plumage. Owing to the plumage being so wet the flight back to the tree is very laboured and heavy. They then sit preening their resplendent plumage in the sun; meanwhile, there is a steady flow of birds back and forwards from the water. The time taken by the birds in bathing is only a matter of a few seconds. The voice of this Bee-eater is not in keeping with its plumage, it is merely a rather loud harsh twittering. The birds seem to have set times for bathing, resting, and catching their food. My companion told me that these birds nest in hundreds in holes in the sandy banks of the Zambesi. They are seldom found far away from water, though I have sometimes seen them on the high dry veldt; but I believe they were then only on their way to the north, where they go to breed.

ARNOT'S BUSH CHAT (*Thamnodica arnotti*)

We frequently saw this rare bird on the high dry veldt in Gazaland. Its striking mixture of black and white makes it a most conspicuous bird. The solitary specimens that we saw were always hopping about

the taller trees after the manner of a Thrush. Owing to the adverse conditions we met with, I had little time for studying the habits of this bird.

THE BLACK TIT (*Parus niger*)

Occasionally we saw this very striking but very un-Tit-like bird in the trees by our camps. Judging by its demeanour, it seems to resemble the Shrikes more than the Tits. It is always a solitary bird. I have never seen it in pairs. It is very active in the trees, passing from branch to branch the whole day and seldom resting. It does not move over the boughs after the manner of the true Tits. It utters most of the time a peculiar harsh note. The food consists of insects, especially spiders, which it finds in the trees.

THE RACQUET-TAILED ROLLER (*Coracias spatulatus*)

A pair of these beautiful birds were seen by our camp near the Umvumaooodzi, sitting on the top of a tree uttering their peculiar and very distinctive note. They feed principally upon grasshoppers.

THE YELLOW-BILLED KITE (*Milvus ægyptius*)

We found this bird fairly common and single examples would be seen around our camp on the look out for scraps; sometimes if they saw a small piece of meat they would swoop down and seize it with their talons within a yard of one. The flight is extremely buoyant and light and the tail during flight pivots from side to side. Sometimes this bird will sweep over the low bushes in search of small birds and mammals.

SPARRMAN'S HONEY GUIDE (*Indicator sparrmani*)

In some parts, especially in the well-wooded districts, we found the bird plentiful; it at once attracts attention by its loud, harsh, chattering cry. When it wishes to attract the attention of a human to a bee's nest it is confiding enough, but at other times it is very shy and extremely difficult to approach.

THE WOOD HOOPOE (*Irrisor viridis*)

We found the nest belonging to this species in a tree in the middle of a rest camp about 50 miles from Spungerbera. We discovered the nest owing to the female bird flying round and round uttering its loud

attering cry. The natives we found had stuffed up the hole with ass. I have no idea why this was done, because when a native finds a nest with eggs in he usually keeps a watchful eye on it with a view to taking the young as soon as they are large enough to eat. We found the eggs, five in number, a beautiful pale greenish blue, very much like those of the European Starling, at the bottom of a hollow branch, about 5 feet away from the opening; there was no nest, the eggs were just lying on the damp rotten wood, and were very much stained in consequence.

MOSELIKATZE'S ROLLER (*Coracias caudatus*)

Not far from the nest of the Wood Hoopoe we found a nest of this roller placed in the upright hollow branch of a large tree about 20 feet from the ground, the hole was so small that we would have thought it was almost impossible for the birds to enter.

THE SWALLOW-TAILED BEE-EATER (*Dicrocercus hirundineus*)

We frequently saw these beautiful birds on the way down to the Umvumaooodzi River, usually singly, perched on the topmost branch of some dead tree, and from there making short flights into the air to capture winged insects as they passed. They have a very distinctive call.

THE BROWN-HEADED PARROT (*Pæocephalus fuscicapillus*)

In some districts that we passed through this Parrot was exceedingly abundant, in one especially which was covered by grey lichen woods they were breeding in the hollow trees. Like most of the East African parrots, these birds associate in pairs and are usually very shy, but when camping by the Umvumaooodzi River we found them comparatively tame and quite easy to approach. They came there in large numbers to feed upon the nectar of the huge red flower of the "German sausage" tree. During the time they were feeding they remained fairly quiet, but at other times, especially when flying, they gave vent to ear-piercing shrieks. This charming Parrot is light brown on the upper parts, including the upper breast, darker on the head, and the beak is tinged with green; the mantle wings and tail dark grass-green, the lower back rump, upper and under tail-coverts brilliant grass-green, the under parts are bluish pea green, the under wing is brilliant

canary yellow, and is very conspicuous in flight. This Parrot seen seldom to have been imported into England, which seems a great pity for it is plentiful in its native haunts and would, no doubt, make a delightful pet.

PETER'S FIN-FOOT (*Podica petersi*)

I first saw this strange Cormorant-like bird on a secluded lily covered pool of the Periweri River ; it was swimming with the body submerged, the back being on a level with the surface of the water. It didn't seem in the least perturbed at seeing me, and later when I was sitting on the trunk of a large fallen tree which lay half across the pool it came and settled on a branch within a few feet of me ; it was in a drenched condition, and at once proceeded with a lengthy toilet, which lasted over a quarter of an hour. After that it went into the water again and proceeded to fish by diving and staying under the water ; sometimes it was submerged for more than a minute at a time. It must have travelled at a great speed under the water, judging by where it went under and where it came up again. If the fish it caught was a large one, it would bring it to the surface to swallow, but if the catch was a small one it would be swallowed under water. After about five minutes of this the bird would come and settle near to me and again proceed with a lengthy toilet. I have never seen such a fearless bird ; it seemed, in fact, to approve of my company ; evidently I was the first white man it had seen.

THE JACANA (*Phyllopezus africanus*)

On the same pool on which I saw the Peter's Fin-foot I saw a pair of Jacanas and spent several pleasant hours watching them. Their huge feet are specially adapted for walking on the large water-lily leaves when the leaves are *en masse* they do not sink under the bird if it is stationary for any length of time, but single leaves gradually sink. If the leaves are too far apart for the bird to comfortably walk on it will swim. The whole time that the birds are walking over the aquatic vegetation they are busily engaged in picking up minute aquatic insects upon which they feed. The Jacana is an extremely graceful bird in build and also in its movements.

THE LARGER STRIPE-BREASTED SWALLOW (*Hirundo cucullata*) AND
REICHENOW'S SPINE-TAILED SWIFT (*Chaetura strictæma*)

Both these birds were common about the large pools of the rivers. The Swallow is a particularly attractive bird, which spends a great deal of its time in the trees, where it utters its sweet and sustained song. The Swifts were only seen in the early mornings before sunrise when they bathed in the water. Owing to the extremely short tail and the fluttering mode of flight they look strangely like bats.

PELICANS AND THEIR ALLIES

By J. DELACOUR

These birds have completely webbed feet ; the great toe being joined by a membrane to the rest. They are mostly sea birds, and only a few of them frequent fresh water. They are large perching birds and feed on fish. Certain species are often met with in Zoological Gardens, where they live well if given their proper diet of fish and meat, but few of them are desirable to amateurs, for they are not beautiful, are large feeders, and very dirty.

THE PELICANS (*Pelecanus*) are well known, they are all large birds having white or pale grey plumage. They are characterized by long beaks, provided with an enormous expanding pouch below. There are roughly speaking about ten species, all about the size of a Swan ; all swim and fly with great ease. They do well in captivity, feeding on fish. Pelicans have a duller colouring when in eclipse, and the females differ slightly from the males. They are sometimes dangerous to feebler birds. The species are as follows :—

Pelecanus onocrotalus, inhabits Europe, Africa, and West Asia ; large ; white, with a pink flush and black flights.

P. roseus, which frequents the same regions and spreads to the extreme east. Smaller, and with a shorter beak.

P. crispus, distributed over the same ground except Africa. Black and white, with a crest on its head.

P. philippensis, from India, Indo-China, and the Philippines. Black, white, and vinous brown ; smaller.

P. rufescens, from North-East Africa, resembles the preceding.

P. fuscus, Gulf of Mexico. Pale yellow head, brown neck, grey with black streaks above; vinous brown underneath; small. *P. californicus*, from the Pacific Coast, is much the same.

P. thagus, native of Peru and Chile, one of the guano-making birds, is brown with white stripes; head and sides of the neck yellow, upper part of the neck black.

P. erythrorhynchus, from the interior, North, and Central America, is white with black flights and in the breeding season it is adorned with a horny plate on the middle of the upper mandible.

P. conspicillatus, Australian, is white, with black on the mantle and wings.

THE TROPIC BIRDS (Phaethontidæ) are very beautiful sea birds, with white plumage more or less flushed with pink, and sometimes also with black markings, and with very long pointed tails. Their bills are short and conical, and their feet very tiny. There are about half-a-dozen species, all frequenting tropical seas. They cannot endure confinement.

The same applies to the FRIGATE BIRDS (Fregatidæ), large sea birds with very long narrow wings and forked tails, which one often sees floating above tropical coasts. They are black, but the male has a naked red pouch under his bill, which he can inflate at pleasure. Young birds have white heads and necks. They have been successfully kept for a time in some zoological gardens, especially in New York.

GANNETS (Sulidæ) are large birds, with pointed tails and large bills bare at the base.

THE COMMON GANNET (*Sula basana*), well known on our coasts, is all white save for its black flights; there are many other species, mostly white, or brown with more or less white, which cannot be enumerated here. Gannets do fairly well in confinement, but have little to recommend them to amateurs. They are generally to be seen in zoological gardens.

DARTERS or SNAKE BIRDS (*Anhinga*) are curious birds, which frequent river-courses and lakes in hot countries. They remind one of Cormorants and have much the same appearance. They are thick-bodied, with fairly long tails, very long and slender necks, terminating in a scarcely larger head, itself prolonged by a long, pointed, narrow

. Their strange appearance has earned them the name of "Snake
heads".

Darters often perch; they swim and dive with amazing facility,
and are very amusing to watch; they also become very tame. I brought
one back with me from Orinoco, and one occasionally sees them in
zoological gardens.

THE RUDDY DARTER (*Anhinga rufa*), from Africa and Asia Minor
is black on the top of its head and back of its neck, the throat and
front of the neck ruddy, with a white stripe from the eye to the shoulder,
the rest of its plumage is black, streaked above with white. The female
has the top of her head, middle neck, and back ruddy.

THE ASIATIC DARTER (*A. melanogaster*) is known by its brown
head and neck, with white spots, and by its fawn-coloured mantle.

THE AUSTRALIAN DARTER (*A. nova-hollandiae*), also found in
New Zealand and New Guinea, is black with a white band at the sides
of the neck, a chestnut spot at the base of the neck and in front, and
white-streaked mantle. The female is brown above and white beneath.

THE AMERICAN DARTER (*A. anhinga*) is black, with brown and
white mantle. The head and neck of the female are light brown.

CORMORANTS are well known birds; our two species *Phalacrocorax*
bo and *P. graculus* are black with green lights; the last named is
smaller and crested. After the breeding season they assume a dull, deep
brown plumage. There are many species of Cormorants, all much alike,
living sometimes by thousands on rocky coasts all over the world. Some
have black and white plumage. They all live well in confinement, and
are always on view in zoological gardens; but they are not birds
of the amateur; so we need not dwell longer on them. They live on
fish. The Chinese and Japanese tame Cormorants and train them to
bring fish for them.

SWANS

By the MARQUESS OF TAVISTOCK

Swans, together with Geese and Ducks, make up the Anseriform Order, which is known by having webbed feet, but the big toe free and flattened bills provided with lamellæ or plates. Swans compose a small, very special group of Palmipedes; one species may be looked upon as aberrant and intermediate with other kinds. They are large birds of quarrelsome disposition, but given sufficient space and water they are both beautiful and imposing.

Swans are a great ornament to a piece of water, but unless they can be accommodated with a really large territory and plenty of water enough to enable each pair to isolate themselves, it is better to give each pair a separate pond or tank, which, however, may also be inhabited by aquatic birds of other species. They feed on grass, aquatic plants and grain, and must be enabled to obtain all the vegetable food which they need to keep them in good health. Generally speaking, Swans do not mind cold. Although pairs of the same species or of different species fight savagely for the purpose of keeping to themselves a stretch of water which would really be large enough for a dozen of them, they do not as a rule interfere with other swimming birds, except the largest kinds, and those in particular which are coloured like themselves, which last is a habit common to all birds.

The sexes are alike, but the female is smaller than her mate. They are monogamous and pair for life, and should one perish the widowed bird often pines away and dies of grief. A male which has lost its mate often attacks a fresh one, but may, after a time, get used to and accept her. Swans are migratory birds, as are most Palmipedes.

THE MUTE SWAN (*Cygnus olor*) is the White Swan, commonly met with everywhere. It is perhaps the most handsome, but also the most vicious of all its race. A breeding male not only tries to kill every other Swan he comes across, but attacks all other kinds of web-footed birds. The young in their first plumage are grey, which is the case with most of the genus; they turn white after their second summer. The so-called "Polish" Swan (*C. immutabilis*) is nothing more than an albinistic variety of the domestic bird. Adults have grey feet and paler bills.





and the young in down are white. The so-called Mute Swan is not usually without a voice; it utters a kind of grunt. It is quite domesticated here, but is wild in Northern Europe and Asia.

THE TRUMPETER SWAN (*C. buccinator*) is the largest Swan; it has become very rare in its own country, western North America. Its beak is perfectly black and its plumage white. It is easily domesticated, and the cock bird is very spiteful towards its own species, even in winter, but does not attack Ducks. It has a very powerful voice, like the sound of a trumpet.

THE AMERICAN SWAN (*C. columbianus*) is smaller than the preceding, and has a small yellowish white spot at the sides of its beak, near the nostrils; it has the same kind of cry as Bewick's Swan. This species has never yet been bred in confinement, though a cross has been obtained between it and the wild Swan. It is a native of North-East America.

THE WILD or WHOOPER SWAN (*C. cygnus*) is found in Northern Europe and Asia. It has a musical cry like the sound of a shrill trumpet. It is distinguished by the large yellow spot at the sides of the beak. It has been bred in confinement, but more often the eggs are unfertile; when this happens, the male bird should be changed for another. This species is very migratory, and once it takes to flight it quickly disappears.

BEWICK'S SWAN (*C. bewicki*) resembles the above-mentioned but is decidedly smaller, besides having the yellow spots much diminished, not extending beyond the nostrils. It has been bred occasionally. It is as quarrelsome as the other species.

THE BLACK-NECKED SWAN (*C. melanocoryphus*) is a South American species with striking plumage. Its body is white, head and neck black with white eyebrows; bill bluish grey and a large red wattle. It does very well in confinement, but should have a shelter in winter lest its feet get frozen. The cygnets have a pretty habit of climbing on to the backs of their parents by means of their bills and seeking refuge under their wing-feathers, leaving their heads outside. They are somewhat delicate, need fine weather, and plenty of water-vegetation. The female is the smaller, but has a wattle.

THE BLACK SWAN (*Chenopsis atrata*) is greyish black, with the wing-

coverts streaked and white flights ; its bill is red. It breeds very freely in captivity, and is very pugnacious, but not very powerful, and a Canadian Goose can stand up to it. The female is smaller and has a shorter neck than her mate. It raises its wings like the Mute Swan when flying it makes a peculiar but musical noise. It is a native of Australia. It will not stay if full-winged.

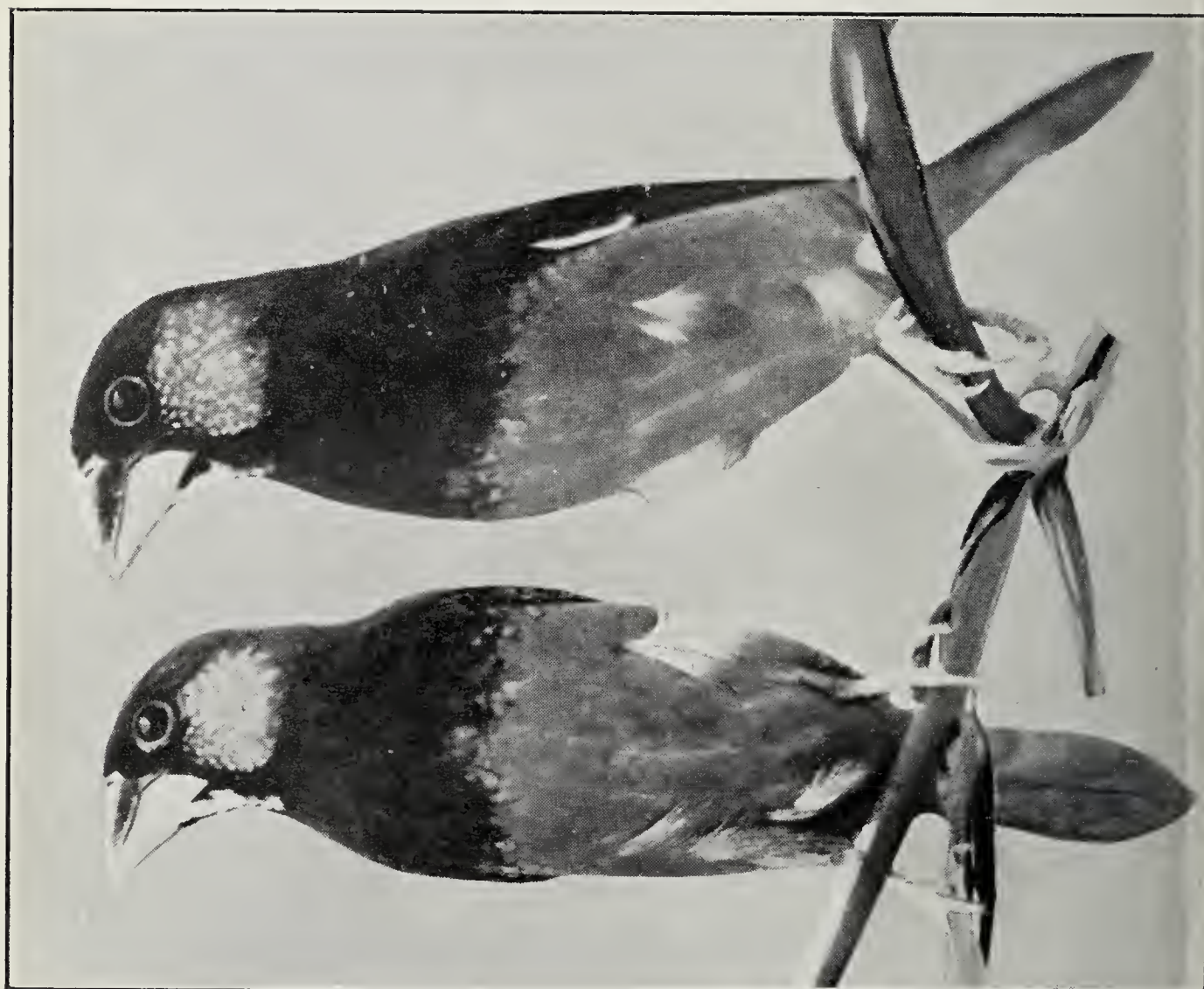
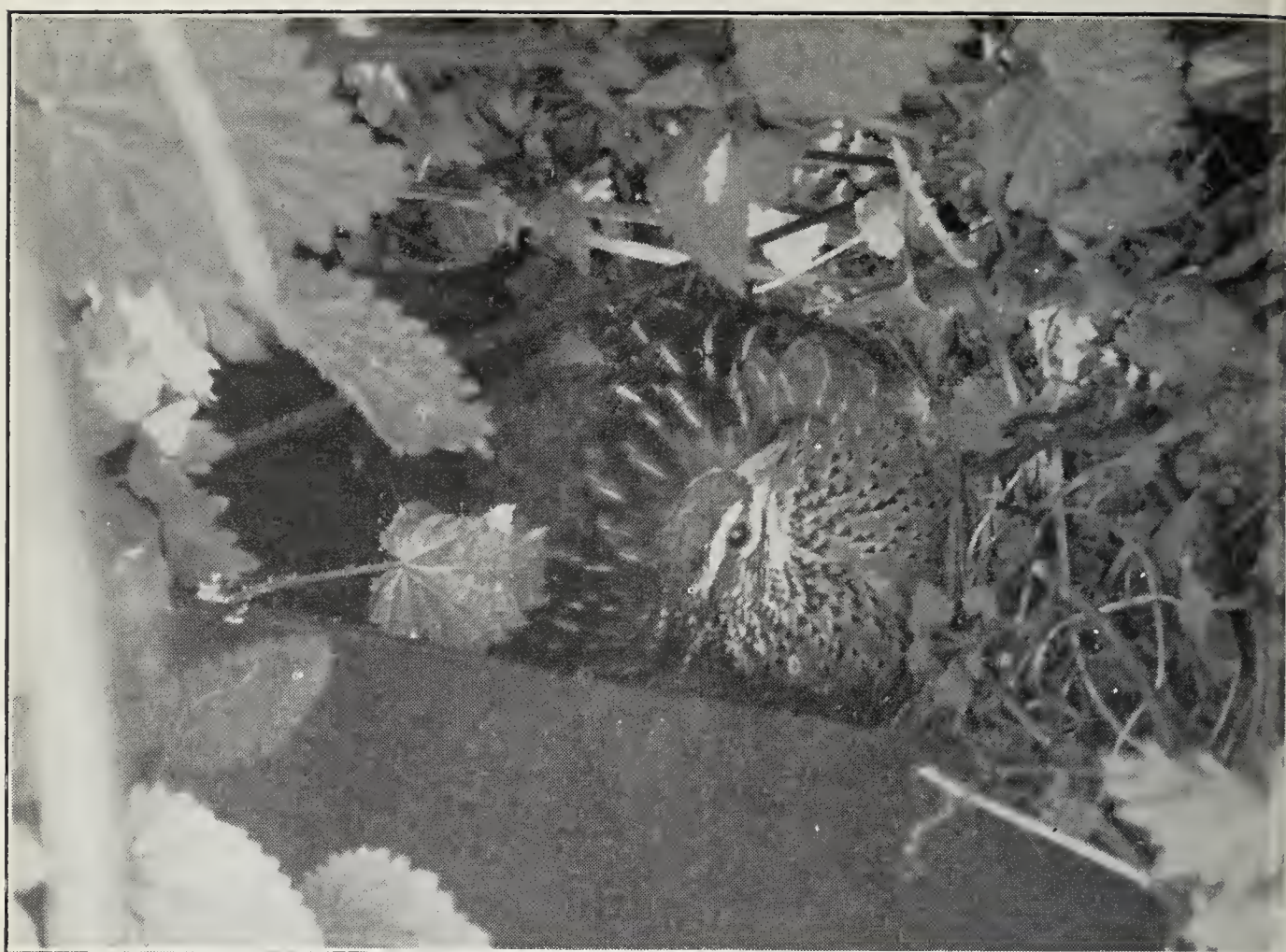
THE COSCOROBA SWAN (*Coscoroba coscoroba*) is probably only a huge *Dendrocygna*, which it resembles in shape, but its size and colour have caused it to be provisionally placed among the Swans. It is white with black-tipped wings and red bill. Its feet are thick and pink. It is an inhabitant of South America. Unfortunately this handsome species is very tender, needing very pure water, plenty of natural food and shelter in winter. Its eggs should be hatched under a hen and the young reared on duckweed and fresh grass. Should the Swan wish to sit she may be given Ducks' eggs, but she is so excitable that she seldom rears them. In this species the sexes are alike, but the female is the smaller. It has a curious, rather low voice, and when annoyed slightly ruffles up its wings.

THE BREEDING OF THE SPOTTED FRANCOLIN (*FRANCOLINUS SEPHÆNA* *SPILOGASTER*)

By W. SHORE-BAILY

In January, 1926, I got from Chapman a pair of Francolins from Abyssinia. These were turned straight into a large aviary, with only an open shed for shelter, in which enclosure they have been ever since. This has proved them to be hardy birds, which one would rather expect to be the case, as I believe they come from the highland districts of North-East Africa, where the temperature at times must be very low. They proved to be quiet and inoffensive birds with the other occupants of the aviary, mostly Waders, and were well able to look after themselves, ignoring the sham attacks of the breeding Ruffs. On 1st May I found the hen sitting on five eggs. These were cream-coloured, with a few small pink spots. The eggs were shaped like those of the Sand Grouse, being equally rounded at each end ; the shells were extra





To face p. 221.]

inarily thick. On the 24th two young were hatched, these were like the Partridges, but rather larger. Both birds looked after them by day, the hen took sole charge by night, the cock retiring to roost in a low over the pond. The little ones grew slowly, but were soon able to fly. At the time of writing they are about the size of Quails, and are very strong on the wing. Size about the same as the Red-legged Partridge. Colour above brown, each feather more or less pencilled with a darker shade; underside buffish; throat spotted with chestnut; a conspicuous white eyebrow stripe; feathers on head stiff. Both sexes are alike, but the male has spurs.

LOVEBIRDS

By MRS. PRESTWICH

(Continued from p. 187)

AGAPORNIS ROSEICOLLIS

The Peach-faced or Rosy-faced Lovebird was first described in 1813, and was thought to be a variety of *A. pullaria*. It, however, received recognition as a separate species in 1817, under the name *Agapornis roseicollis*, and its present title was bestowed on it in 1852. The Zoological Gardens received their first specimen in 1862, probably the year of the first importation. *Roseicollis* has been imported frequently since, but in small numbers, and is at present rather scarce, very few having arrived since 1914.

The Peach-faced is fairly popular with aviculturists, as it nests readily, but unfortunately it has two drawbacks which lose it many friends, namely its high-pitched, oft-repeated shriek and its peevishness towards other birds. Two pairs of Peach-faced should on account be kept together, and it is not advisable to trust them with taller and weaker birds. The sexes are somewhat similar, but the hen differs from the cock in the slightly paler red colouring of the frontal band, which is usually more restricted, also the rosy colour extends further towards the breast in the male than in the female. This member of the family has been bred on many occasions. Dr. Brehm was successful in Germany as long ago as 1882. The first recorded success in Great Britain was that of Mr. J. Cronkshaw, who reared two young in 1895 ;

Mr. Cocksedge bred eight in 1899. More recent successes are those of the late Dr. Lovell-Keays, Dr. Amsler, Mr. T. Hebb, Mr. H. E. Briggs, Mr. E. J. Boosey, and the Marquess of Tavistock. They take readily to nest-boxes or hollow logs, which they proceed to cram with strips of bark, hay, grass, etc., carried in the usual manner under the feathers on the lower back or upper tail-coverts. The number of eggs varies from five to seven, which the hen alone incubates, being fed by the cock. Three broods are frequently produced, and even more, Dr. Russ stating that when not prevented, six and even seven broods have been produced in succession. After three nests their activities should be discouraged for a time. Incubation appears to take nineteen to twenty days, and the eggs, which are rather pointed, measure approximately 23.5 mm. \times 17.5 mm. The young have no red colour on the forehead, which is yellowish; the rose colour of the cheeks and throat very pale. Insectivorous food can be provided with advantage when young are being fed, and some parents partake of this quite freely, suggesting that in the wild state insect food forms part of their diet.

Little information is available as to the habits of this species in the wild state, but Andersson in his *Birds of Damaraland*, writes as follows: "This species is always observed in small flocks, and seldom far away from water, to which it resorts at least once a day, and consequently not a bad guide to a thirsty traveller; though, if he is inexperienced it would hardly avail him much, as it frequently happens that the drinking places resorted to by this and other water-loving birds are but of small compass and strangely situated.

"This species is very swift of flight, and the little flocks in which it is observed seem to flash upon the sight as they change their feeding grounds or pass to and from their drinking-place; their flight, however, is only for a comparatively short distance at a time. They utter rapid and shrill notes when on the wing, or when suddenly disturbed or alarmed. Their food consists of large berries and berry-like seeds."

Andersson then proceeds to make a statement which has caused much controversy:—

"This bird does not make any nest of its own, but takes possession of those belonging to other birds, especially the Social Weaver Bird (*Philaterus socius*) and the White-browed Weaver Bird (*Ploceipasser*).

ali). I cannot say whether it forcibly ejects the rightful owners of the nests or merely occupies such as have been abandoned, but in the case of the first-named species, I have seen the Parrots and Weaver Birds incubating in about equal numbers under the shelter of the same kindly roof."

Mr. Seth-Smith probably provides the true solution in his standard work, *Parrakeets*. On page 147, he writes:—

"Although we cannot doubt Andersson's statement that the huge nests of the Social and White-browed Weaver Birds are often used by *Myiophobus roseicollis* as nesting places, his contention that this species finds no nest of its own cannot be accepted by those who have known the bird under more or less natural conditions in large aviaries in this country and on the Continent.

"There is little doubt that the enormous umbrella-shaped nests of Weaver Birds, which are described as consisting of 'whole cartloads of grass', are used merely as receptacles for the nests of the Lovebirds, especially in districts where large trees, containing suitable holes and nooks for nests, are scarce." Some aviculturists have managed to keep Peach-faced in large cages and have even induced them to breed, unless the cages are of very exceptional size, sooner or later they develop into "feather-pluckers". The Marquess of Tavistock has kept this species at liberty, but found that it did not stay well.

A very interesting variety of the Peach-faced was received at the Zoo in 1921; the rosy tint of the cheeks had spread over nearly the whole of the body, so that the bird was rosy-pink over the greater part of its plumage.

The ever-popular and accommodating Budgerigar has been used successfully on several occasions to hatch the deserted eggs of *Roseicollis*.

Russ had young reared in this way, and M. P. Paillard, of Bordeaux, met with similar success. Incidentally, Mr. J. W. Marsden, the Blue Budgerigar pioneer, once had a Black-cheeked Lovebird fledgling successfully reared by Budgerigars. In conclusion, the only "talking" Lovebird I ever heard of was a Peach-faced, hand-reared by H. Amsler. This bird, whenever he had misbehaved himself by giving an extra hard nip, would say "Naughty Joey!" quite distinctly.

(To be continued.)

AVICULTURAL NOTES

By THE EDITOR

So far as foreign birds are concerned, the breeding season of 1926 seems to have been a very bad one. The early part was abnormally dry with cold winds, a condition that is most unfavourable. Chicks, eggs, or no eggs at all, or young birds dead in the shell were reported from most aviaries. And when the damp weather came there was rain to excess with very little sunshine and a low temperature.

Mr. Walter Goodfellow has just returned home with a collection of choice birds, amongst which may be mentioned 3 Twelve-winged Birds of Paradise, 2 Red Birds of Paradise, 1 Lesser Bird, 2 Wilson's Birds of Paradise, 1 Magnificent, mostly adult males in full plumage; 1 Great Blue Cockatoo, 2 Pesquet's Parrots, male and female; 1 Goffin's Cockatoo, 7 Varied Lorikeets, 8 Black-capped Fruit Doves, 5 *Treron vernax*, and an Owl (*Huhua orientalis*). Most of these birds are in beautiful plumage and bear testimony to the great care that has been bestowed upon them during the voyage.

The *Ibis* for July contains two papers of interest to aviculturists. Both are from the pen of Mr. F. E. Blaauw, who describes the successful breeding at Gooilust, Holland, of the Blue-winged Goose of Abyssinia (*Cyanochen cyanopterus*) and the Bare-eyed Cockatoo (*Cacatua galerita*) during 1926. Of the first of these little was known until Mr. Blaauw obtained seven examples in 1923. He finds that they are very nocturnal in their habits, nest-building, courting, and mating all taking place during the night. Five eggs, of an elongated shape and cream-coloured, were laid, and four goslings were hatched by a domestic hen after thirty days' incubation, all being reared successfully.

The Bare-eyed Cockatoos which bred were very old birds which had previously lived in the Zoological Gardens of Hanover, and probably never before had an opportunity of nesting. A single egg was laid in a log nest. Only the female incubated, and a chick hatched after three weeks, but did not leave the nest until 9 weeks' old when it was the image of its parents.

About thirty Members of the Society met at the Zoological Gardens 8th July, and took tea together, afterwards visiting the Small Bird House and other places of interest to aviculturists. It was very pleasant to meet members who one has only known by correspondence, and to discuss the many problems that confront aviculturists. Most fortunately the weather was ideal.

In a few months' time the large collection of birds in the Small Bird House at the Zoological Gardens will be transferred to their new quarters in the old Reptile House, which is being converted into a up-to-date Bird House. There will be some twenty large wall cages suitable for Toucans or Birds of Paradise, three very large central aviaries, and some thirty or more small cages, while on the north and west sides of the house will be a number of outdoor aviaries. The house will be well lighted by electricity, both ordinary and "sun-lamp" lamps being employed during dull weather, while palm-trees and hanging baskets of ferns will add to the beauty of the house, which will provide far better accommodation for the birds than they enjoy at present.

Amongst the new arrivals at the Zoological Gardens are two examples of the fine Derbyan Parrakeet (*Palæornis derbyana*) from Malaya, one of which has been presented to the Society by Mr. Eustace, the other acquired by purchase. It is long since an example of this species, a coloured plate of which we published in June, 1926, has been represented in the collection. Both are males, one in perfect plumage, the other showing signs of melanism on the head.

Mr. Allen Silver has recently constructed a very useful series of aviaries which he believes to be mouse- and rat-proof as well as escape-proof, the birds being fed from outside window-doors without the necessity of the owner entering. Before completion, however, some Grey and Green Singing-finches did escape, but they did not go away, and when shown a cage with a millet-spray inside entered at once. Mr. Silver believes that in a cat-proof garden the Grey Singing-finch would stay and make a very tame and delightful pet. They are so

tame, however, that they are liable to be trodden upon. The great drawback to this kind of aviculture is that the birds are apt to be taken by cats or owls, both the Tawny and Little Owl being very destructive.

CORRESPONDENCE

BREEDING THE ABYSSINIAN BARBET

SIR,—I am sending you a line to say that one young Barbet (Abyssinian) left the nest yesterday, and in spite of flying straight into some hot water as hot as I could bear my hands in, with which I was washing some pans, seems none the worse to-day, and the parents are still feeding it assiduously. I regret to say the other I found dead on its back below the nest to-day—between the seed-box and the wall; I suppose it came out of the nest this morning, got in there, and could not get on to its legs; it is bad luck. I examined the nesting block—no nest, no eggs, or remains of any, and very clean. Yet I never saw the old birds bring out excrement, but they must have done so. They fed the young for choice on mealworms, but used a great number of gentles and possibly a certain amount of currants and soft food mixture, also any other insects they could get, including dead beetles in bottles, which we gave them. I only hope they may nest again. I should like to see the eggs. Am I the first to have bred them? Please use any of above you think fit for the Magazine. I regret to say I had rotten luck with Nyasas; had four young birds in nest—they all flew this week; about a day after I found one on floor with head bashed in, another dead next day plump as a Partridge and no sign of mishap, and the fourth is neither in the nest nor elsewhere to be seen, so one out of four remains!

JOHN S. REEVE

25th June, 1927.

[To breed any species of Barbet in captivity is a great achievement, and there is little doubt that Captain Reeve is the first to succeed with *Trachyphonus margaritatus*. Writing on 15th July he says that the young bird is feeding itself, and it may therefore be considered as fully reared.—ED.]

AN AMERICAN SISKIN AND TANAGER

SIR,—With reference to my recent notes on newly imported Mexican birds, I have now had the opportunity of examining the skins in the British Museum and I find that the Siskin I described is *Astragillinus traillii* and the Tanager *Pyrrhuloxia bitincta*, or Swainson's Tanager.

W. SHORE-BAILLY.

MACAWS AND A HAWK-HEADED PARROT

SIR,—I was much interested in Miss Knobel's article on the Smaller Macaws. I have never kept any of the varieties described, but I have had a number of the larger ones: these seem to vary in disposition almost as much as the Grey Parrot, although I think on the whole these are less really bad screamers; the best-tempered one I have had was a Red and Yellow, with whom one could do almost anything. This was closely rivalled by a Blue and Yellow, who quite made up for occasional playful nips by being quite a good, if somewhat monotonous singer. It is very fond of saying in a most sorrowful tone "Poor La", and then looking round for approval. One curious habit I have noticed with all Parrots, but more especially with Macaws, is the way they open and close the iris with great rapidity, especially when excited.

I have only had one Macaw that I really could do nothing with: it was a Blue and Yellow, but I rather fancy it was caught as an adult bird. Macaws make charming pets in many ways, but they are rather noisy and appallingly destructive.

By far the tamest Parrot I have ever had is a Hawkhead; when I had her, she was extremely nervous, but with a little coaxing she became very tame. A favourite game is to play dead, and she will lie on her back on one's hand and go perfectly limp and will allow herself to be passed from hand to hand. She behaves very much as described in Green's *Parrots in Captivity*, except that she has never shown any sign of talking or even trying to talk. All day she keeps up a sort of "Chuck" noise, but when excited it becomes much higher pitched and very rapid; occasionally she whistles odd notes, but has never tried to make a tune. She is most acrobatic and very quick,

with none of the laborious caution of the Grey Parrot, preferring rather to jump than climb. At night she sleeps in a box attached to the door of her cage. She always retires at about 7 p.m., even when it is light in the evenings.

She does well on a good plain Parrot mixture with a little apple or toast crust occasionally.

Apparently the crest is only thrown up after preening the feathers or when defending itself; she will terrify my Grey Parrot if it interferes by throwing up her crest and giving short, sharp hisses.

R. M. EVANS.

THE BEAUTIFUL WOOD HAWK

SIR,—One bird which was of special interest, from a *spectacular point of view*, has been accidentally omitted from the list of birds prey published in the Magazine for June and July; and as it was very interesting when alive on account of the dark brown erectile crest on its head and the long loud cry it uttered (rather like that of Pel's Owl see 1921 Vol., p. 154), a brief account from an old note-book may be of interest to readers. It reads "Beautiful Wood Hawk (*Dryotriorchus spectabilis*) from Lagos. Scalp, back, wings, tail, dark brown with broad transverse darker bars on wing quills. Beak black. Face around eyes and throat, pale brown, with dark moustache at each side and a narrower dark median streak on throat. Breast and abdomen pale brown, with dark broad transverse bars. Legs yellow. Well marked dark brown erectile crest. Utters long loud cry."

It was a largish bird, rather Buzzard-like in body appearance excluding crest, and was in the Eastern Aviary of the Zoological Gardens about the year 1906. So far as I know, it unfortunately did not live long. I believe the first exhibited.

FREDERICK D. WELCH, M.R.C.S.

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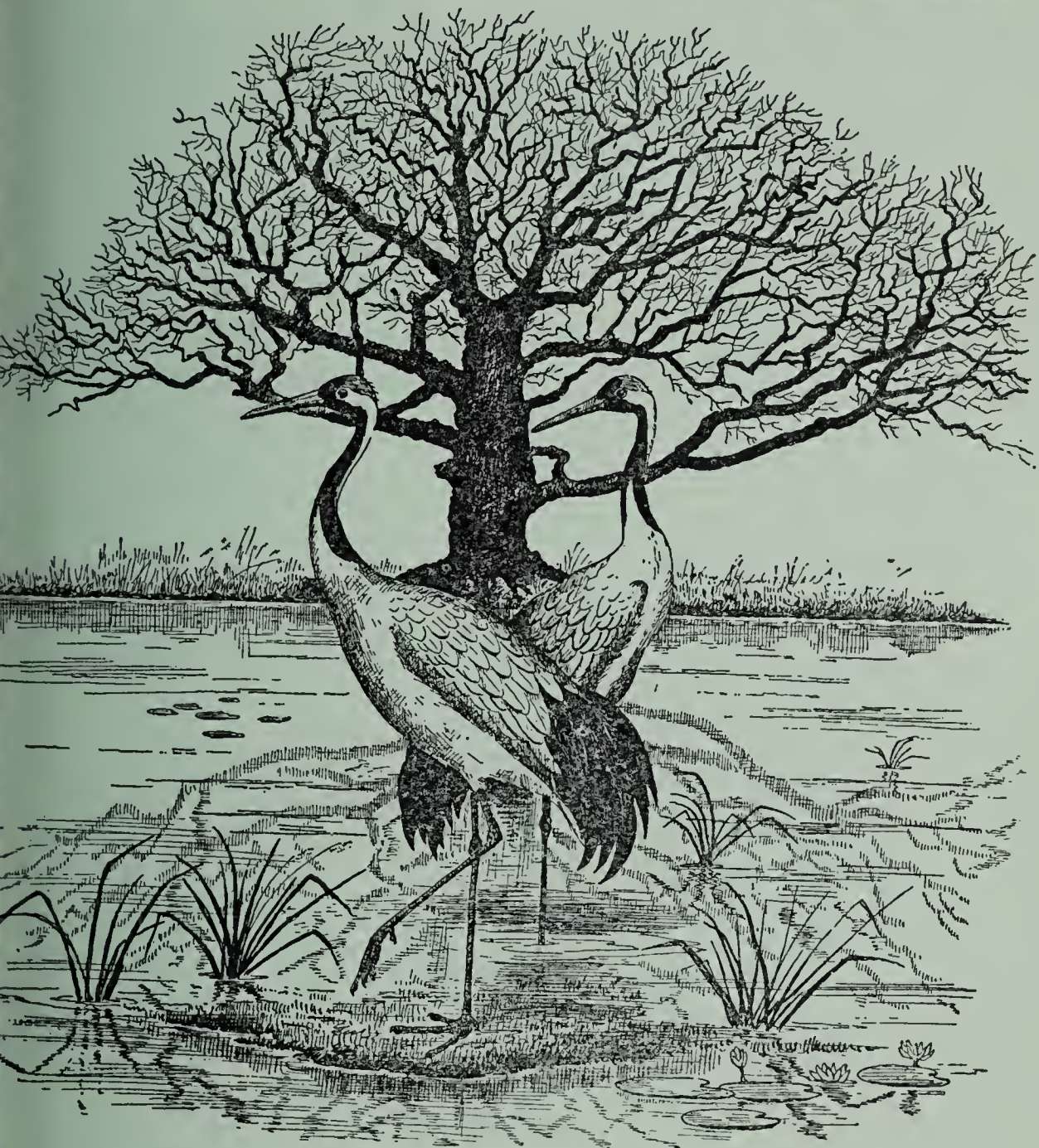
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THE
Avicultural Magazine



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THE AVICULTURAL SOCIETY.

FOUNDED 1894

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Renauld's Ground Cuckoo.
Carpococcyx renauldi.

THE AVICULTURAL MAGAZINE

BEING THE JOURNAL OF
THE AVICULTURAL SOCIETY
FOR THE STUDY OF
FOREIGN & BRITISH BIRDS
IN FREEDOM & CAPTIVITY

Fourth Series.—Vol. V.—No. 9.—All rights reserved. SEPTEMBER, 1927

RENAULD'S GROUND CUCKOO

(*CARPOCOCCYX RENAULDI*)

By J. DELACOUR

From the time of its discovery in 1895 up to 1915, when three more specimens were found in Siam, this fine bird had only been known through the three original specimens sent to the Paris Museum by Ther Renauld, from Central Annam. It is one of the rarest birds in skin collections.

Since I have undertaken the ornithological exploration of French Indo-China, in connexion with my friend M. P. Yabouille, Civil Officer and presently Travelling Commissioner in Annam, we have procured a number of Ground Cuckoos, several of which are now alive in our aviaries at Huê (Annam) and four in our President's aviaries at Xwarren.

Of the latter I brought one home in 1926, the first to reach Europe alive. It was sent by me to Clères with another one in April of that year. Both birds travelled quite well, and arrived safely, although their plumage was rather damaged; unfortunately, one got its leg broken and had to be killed, as it had lost it whole, being otherwise quite healthy. The sound specimen was soon put into an outdoor

aviary, where it slept in the open from June to October, keeping perfect health in spite of our very cold Normandy nights: To surprise, it never molested the other birds which inhabited the aviary; Rheinardt's, Argus, young Sonnerets, Jungle Fowl, different Pigeons and Doves, and even Waxbills, which Coucals, their relatives, would have most certainly eaten in similar circumstances. It moulted in July and since has been in perfect feather. It became very tame during the sea voyage, and now takes food from our fingers. Last spring I brought three more.

Ground Cuckoos are quite easy to cater for; at liberty, they feed on all kinds of worms, grubs, insects, and small vertebrates; in captivity they eat cut-up meat, earthworms, mealworms, and insectivorous mixture, even bread and boiled maize.

The present plate, drawn from life, is worth any lengthened description, and I shall only add to it that Renauld's Ground Cuckoos average a total length of 28 inches, about the size of an ordinary pheasant.

From our investigations, it appears that this species inhabits the whole of French Indo-China and the south and east of Siam. It may not be as rare as it is generally thought, as it is a very shy bird. Very little is known on the bird's habits at liberty; they live in the thickest jungle, where undergrowth, entangled vine, and boulders make it most impenetrable. Only once did we see one flying low across the path, at the Col de Nuages, in Central Annam, one of their favourite haunts. Chicks remain unknown so far, though eggs have been found in Mr. Ezra's aviaries. This Cuckoo's ordinary voice is a low grating note, but it also utters sometimes a whistling call, resembling that of the Argus Pheasant or the Brown Owl.

It is rather difficult at first to keep several Ground Cuckoos in the same aviary, as they are rather quarrelsome at the beginning; but it can be done, and we have kept six in two aviaries, four in one, and two in another one.

It would be most desirable to breed these rare birds in captivity, as there is little chance, owing to their retiring habits, of ever finding their nests at liberty.

THE NESTING OF RENAULD'S GROUND CUCKOO

By ALFRED EZRA

This very rare bird has been a source of great interest to me. The single specimen brought over last year has done very well, in spite of the long wet winter. Again this year, M. Delacour very kindly brought me three more of these rare birds. All the four birds were put into a large aviary. As they all look alike I thought I could sex them by time, by watching them, and their behaviour to one another. As far as I can make out, I have two pairs, but of this I am not quite sure. Though not very friendly, they are not really spiteful with one another. They fly about a good deal and perch sometimes, but most of the time they are on the ground. They eat a good deal of meat and earthworms and are very fond of mice, and sometimes will swallow as many as four one after another. They are delightful aviary birds, and quite hardy and easy to keep in an aviary, where they will not molest the smallest bird. On 3rd July the boy, while feeding the birds in the aviary, found an egg under a small tree in a nest consisting of a few twigs and leaves. This egg disappeared about an hour after it was seen and most probably it was eaten up by some of the other occupants of the aviary. I don't quite know who the culprit was, but as the aviary is occupied by Babblers, Rollers, Rails, and Starlings, I am not surprised that the egg disappeared. The same evening I caught up all the above birds, leaving the four Cuckoos by themselves, with only a few harmless birds. On the 4th another egg was laid. This egg I removed once from the nest, and sent to Lord Rothschild, as I believe it is the first known egg of this bird. I noticed that all four birds were bringing twigs and leaves to the same nest. On the 6th of July I found another egg in the nest. This egg the birds were allowed to incubate, and I am certain that three out of the four birds sat. They incubated steadily for ten days, when this egg also disappeared, and most probably was eaten by the birds themselves. The egg looks very much like that of a Bantam, but is rather rounder, white in colour with a rough shell. If they winter safely, I hope to be more successful

next year in breeding this beautiful and interesting bird. I do not know whether all the three eggs were laid by one bird or more, or whether more than three eggs had been laid.

LOVEBIRDS

(Continued from p. 223)

By MRS. A. A. PRESTWICH

AGAPORNIS NIGRIGENIS

The Black-cheeked Lovebird was discovered by Dr. A. H. Kirkman, on the Muguazi River, in September, 1904. The first small collection, consisting of five birds, arrived in England, via Germany, in April, 1908. Three of the five went to the late Mr. Reginald Phillipps, and the remaining pair to the late Mr. H. D. Astley; the latter pair formed the subject of an excellent coloured plate in THE AVICULTURAL MAGAZINE, October, 1908. Further small collections subsequently arrived, and Black-cheeks proved excellent among birds and free-breeders.

During the years of the war the species almost died out in England, and pairs were practically unobtainable. Last year, however, Mr. Chapman received several very large consignments, and Black-cheeks would seem to be well-established once more. Some little difficulty is experienced in obtaining true pairs, as the sexes are so very alike. Mr. Phillipps, after exhaustive observation, came to the conclusion that the only way to sex them with any degree of certainty was by noting the colour of the iris, which differs in the two sexes, that of the male being pale yellow-brown, and of the female dark yellow-brown. This difference probably proves correct in many instances, but cannot be relied on as an infallible guide, as the iris will vary in colour in any particular bird according to its state of health, age, light, and various other causes. When a number are seen together, pairs can be picked out with certainty by observing the shape of the heads and beaks, which are noticeably broader across the top in the males. The female would also appear to be slightly smaller and

ler in colouring, the forehead and front of crown is darker and
ler; the orbital ring narrower; the beak less suffused at base
h white; while the front edge of the wing is slightly yellow in the
le and green in the female.

Black-cheeks nest very readily, and I have before me the names of
ne twenty successful breeders. Mr. Phillipps was the first, a pair
his original three birds went to nest about two months after their
ival, laid four eggs, all of which hatched and the young reared.
Phillipps has written in a most interesting manner on *A. nigrigenis*,
d members should refer to his various accounts in the AVICULTURAL
GAZINE as follows:—New Series, Vol. VI (1908), pp. 206–10, 318–29;
l. VII (1909), pp. 31–6, 148–56.

The nesting arrangements are similar to those of *A. roseicollis*,
cept that the nesting material is usually carried in the beak, the
lk of the work being done by the female. The eggs vary considerably
shape, but are usually rather elongated and pear-shaped and
proximately measures 22·3 mm. by 16·9 mm. The usual clutch is
ur, but the females seem to be in the habit, after disposing of the
st clutch, to lay immediately an additional three in the same nest.
e female alone incubates for seventeen to eighteen days, the male
t seeming to feed her until after the young are hatched. The
lowng description of the young is taken from one of Mr. Phillipps'
icles (AVICULTURAL MAGAZINE, 1909, pp. 33–4):—

“It was on 23rd July that I first saw a young bird in the nest.
e could only see a portion of the inside, but a nestling a few days
l was visible. On the 26th I saw two nearly naked little things
uattng side by side, like a couple of young pigeons. On the 29th,
Seth-Smith inspected the nest, and reported four young of different
es, all right. On 4th August I just noticed a touch of colour, one
urdy youngster having a pale yellow-red beak. On the 12th, the
owns of the nestlings had all the appearance of being fully feathered.
13th August the two elder, after playing 'possum for a moment,
ood boldly up, raising their heads towards the opening. Along
eir backs and down their necks there were the usual tracks of feathers
t they were far from being fully covered; their tails, less than an
h being visible, showed the subterminal band of black quite well

marked, especially in the eldest, where the markings were of a deep black and much more clearly defined. The forehead showed the color of the adult, or seemed to ; and the salmon-red patch on the chest was conspicuous. The nostrils were quite covered and hidden ; I could not manage to get a glint of light on to an eye—in the shade of the lower eyelid the irides seemed to be quite black.

“ The first young bird to leave the nest appeared on 22nd August, but, for a few days at any rate, he returned to the nest after a short outing. No. 2, I think a female, appeared on the 25th. The general plumage of these two birds was at first very dull, but rapidly became brighter, and the flanks yellower ; the breast-patch at first was very bright ; the brown of the forehead extended farth back in “ A ” than in “ B ”, and then there came some green or greenish. The black on the sides of the chin seemed to be as deep as in the parent, but only a little colouring extended upwards behind the eyes. The head of “ B ” seemed to be broader than that of “ A ”, and, although the younger, “ she ” seemed to be the larger bird. But all the differences of shading quickly assumed a dull level—the young and the old became very much alike. Even the yellow in the red of the beak of the fledglings seems to have gone. No. 3 had joined the group on the 27th, as usual in the quiet of the early morning ; and the fourth and last came out on the following day, carefully tended by one of its parents. I think the latter must have been “ hurried ” out of the log, for it was less forward than the others, and was fed by the male for some days after the others were feeding themselves. They quickly took to nibbling at green food, but on and from the 30th the three were feeding on dry seed, etc., with their father.”

I am afraid the foregoing is rather long, but it seemed of sufficient interest to stand reprinting.

Black-cheeks are exceptionally shy when breeding and on no account should the nest be interfered with in any way. The young in the nest appear to be practically mute, neither calling for food nor audibly responding to its arrival.

Among the more successful with this species may be mentioned the late Mr. H. W. Mathias, the late Dr. Lovell Keays, Capt. G. L. Rattigan, Mr. J. Sumner Marriner, Mr. H. Willford, and Mr. W. Short.

AVIC. MAG. 1927.



Lady Grey with some of her Pets.

To face p. 235.]

ly, the last-named having been extraordinarily fortunate in the number bred.

The Marquess of Tavistock has tried this species at liberty and found that although it readily nested it almost invariably migrated in August or September after breeding.

Black-cheeks agree well together and with other members of the family; non-nesting pairs, however, seem inclined to interfere with the young of nesting pairs.

THE REARING BY HAND OF YOUNG ROCK PEPLARS

By THE VISCOUNTESS GREY OF FALLODON

A basket is required 14 inches long, 6 or 7 wide, and 6 inches deep, lined with a lid, with a stick that runs through the wicker staples. The basket should be of a light wicker-work, so as to be airy. Have two squares of mackintosh for the bottom of the basket, and keep one dozen flannel squares for loose lining. Lift the young birds out of the nest in the morning from time to time, to see their stage of growth, and take the one (or the two) you intend to rear while still in down, with the feathers in the bills, the colour just showing, while the bird is at the age when it is ready to gape for food, and can raise itself on its feet. Two are easier to rear than one; for they keep each other warm.

Place one rubber square in, and lay one of the flannel squares into the basket loosely; have more of the flannel under the birds than over them; there should only be one light "flap-over" of the flannel to cover them, and as they get older they will not need even this. It is essential they should be in a warm hole with air round them, rather than folded closely. They must be able to potter about, inside the flannel-lined basket and not be swaddled tight.

Between the wall of the basket and the flannel, keep a fresh bit of brown bread in a wisp of tissue paper, so that it keeps clean, and that you may always have it handy. Bite a little up into small bits, and moisten it well in your mouth, and when it is in a soft, porridgy con-

dition, it is ready to give to the birds. Lift the one you want to feed and hold it carefully in both hands, place its bill between your lips. If it does not take at once, touch its bill with your lips lightly. Never close your lips over its nostrils. Place its bill to your lips sideways. If they both take well, you can rear them; if only one does so, place the other back in the nest, and try another bird, who may take food better.

Brown bread, mouth-moistened—almost fluid—is enough at first, but as they get older you must mix it with little mouthfuls of bitter and peeled apple—or chewed lettuces—or the pulp of grapes, or bananas and a hard-boiled egg occasionally.

Even from the first, small drinks of warm water are good. As they get older this is essential. You will know when they want feeding by their calling for it. Never force them to feed, but persuade them. Once they get the habit they will let you know when they need it. For the first four or five days feed them every three hours or so. I took mine about with me in its basket, while it was still in down—and when in the house it is wise to take the basket from room to room with one, so that one can hear them when they need feeding.

Change the flannel squares repeatedly; it is important to keep them clean; be sure the clean squares you put in are quite dry. When the feet got clotted at all, I stood them for a minute or so in a soap dish of warm water.

Do not line the basket with hay, as this fosters disease of the lungs. Let them have exercise as they get older; climbing about your lap and up to your shoulders.

Be very careful not to let them drop out of your hands, nor let the basket drop; a fall kills a bird from shock. I think this is why fledglings picked up in spring, having fallen from the nest, so seldom live. I tied a label on to the handle of my basket with a big notice—WITH CARE—LIVE BIRD. This protects them from tidying housemaids and being casually shifted or jarred in ignorance. When almost fully plumed four meals a day suffice—but leave a millet spray in the basket. Let the basket stand somewhere near your bed, so that you can hear them when they wake, and feed them. I found that mine slept till seven a.m., or later. When feeding them, always give a little

a time ; and take time over it. Feeding three, I found, took twenty minutes.

At a month old they should have millet in the spray put in their basket with them, so that they can nibble the seed when they like. They should often be lifted out of the basket and allowed to potter about ; they like to stretch their wings, which they repeatedly do, lengthening the muscles in preparation for flight, by winnowing the air.

The advantage of bringing up by hand in this manner is that you have birds so absolutely and entirely tame that you are able to know them from a new angle. You see their ways, their movements, their petty loves and jealousies, their playfulness, and their exquisite beauty, at close range. And all their feelings they expend on you, coming to meet you as you enter the aviary, and not only tame to you, but regarding all humans as their friends. In fact, it is a question if birds thus reared will mate. They appear to become disoriented from their own kind. This is true of the bird I reared last year ; but may be because I reared one, by itself.

It will be interesting to see if this will be the case equally of the three I have reared this year. They have now grown to full size, and are in no whit different from the three I left to the parent birds, except in the matter of tameness.

The parent birds were given me two years ago by Lord Tavistock ; they bred the first year I had them, hatching three out of four eggs ; but the only one that lived was the one I took to bring up by hand. At the next attempt in their breeding I had the great advantage of Lord Tavistock's expert advice ; the male bird being one of his liberty-bred birds, that can be released in the morning, returning to an annex of the breeding aviary through a wire funnel ; a system that has been, I believe, described by Lord Tavistock in the pages of this magazine.

The female, he tells me, is an older bird than her mate, and bears evidence of some years of previous life in a cage. She is certainly merrier than he, and whistles a snatch of one of the more jaunty tunes of the songs of Chevalier, but only in moments of stress or anxiety. She sidles along the perch, if one looks at her young, whistling this tune

in hurried anguish, which gives a funny effect of conflict, just as one might say "a merry Christmas" in a flood of tears. But her alarm soon dissipates, and on the whole she trusts me, as indeed she must for I would never take the whole clutch from her; and, judging from her decrease in vitality now, she has found rearing three birds sufficiently exhausting.

The success we have had this year in hatching these six young Rock Peplars, the full clutch of eggs, I attribute entirely to having had the great advantage of Lord Tavistock's advice in the matter of the right kind of nest-box, as well as in other nesting details. He recommended a tall construction in appearance like a grandfather clock, filled up to within a foot and a half from the hole with dry wood-pith—the light, porous stuff you find inside a hollow tree that is invaded by decay. The hen nested in April, the eggs hatched on the 18th of May. I took the three young I intended to rear by hand out of the nest on the 5th of June, and freed them into another larger aviary on the 7th of July, flying well and able to feed themselves.

Of the three I left to the parent birds to rear, one already was free, with its father returning through the funnel, to feed; and I shall bring the other two on to do the same. The extreme beauty of these birds in flight cannot be described. I have not a wide experience, but among the species of the Parrot tribe that I do know, I give the Rock Peplars the palm, for they are without the two great disabilities of their race—they are not noisy, and their beaks are too soft to be able to hurt. They have also a further quality of grace—one by no means of small account in the communal life of an aviary—they are gentle and peaceful birds, and do not molest their neighbours.

PARRAKEET NESTING SITES: SUITABLE AND UNSUITABLE

By the MARQUESS OF TAVISTOCK

The past few seasons have taught me some severe but interesting lessons about the extreme importance of securing the right kind of nest for the successful rearing of Parrakeets: especially remarkable

been the evidence of the overwhelming superiority of the perpendicular hollow tree trunk with a natural bottom or with no bottom at the cavity being filled up to the required height with earth and mould taken from the interior of a decaying tree. Hollow tree trunks were terribly heavy and cumbersome to move and often difficult to obtain, but the results more than justify their use in districts where the climate is none too favourable to aviculture. When first I started to rear birds in the new movable aviaries I provided artificial nest-boxes with wooden bottoms covered with a layer of dry, decayed wood and raised up in the flight. Those for Kings and Crimson-wings were nearly 18 in. deep and the bottom rested on the ground. In these boxes the first season I bred two or three lots of very healthy Ringnecks, a few healthy Barrabands, and one healthy Rock Peplar. Kings and Crimson-wings, however, were a dismal failure, the young either dying of pneumonia at an early age or becoming hopelessly rickety about the time they began to feather. One young Crimson-wing was bred in a natural tree trunk with an artificial wooden bottom. When she left the nest she was so rickety that she was quite unable to fly and could scarcely crawl and remained in this condition for several weeks; but I managed to say she slowly improved and in the end became quite a decent bird with good use of her limbs: indeed, I believe she eventually laid eggs. This proves that it was her early environment and not inherited weakness of constitution that was the cause of her debility. The two following seasons yielded less satisfactory results with the birds using the artificial boxes. In only one out of four Barraband nests were all the young reared. One hen, though a good and attentive mother, lost all her brood from pneumonia at about 10 days; another lost three out of four, a third two out of four. The Rock Peplar, also an excellent parent, lost all her young and a breeding pair of Ringnecks died of pneumonia while laying. The Crimson-wings, however, in natural tree trunks with natural bottoms or hollows half filled with mould, reared vigorous young with no sign of weakness.

Next year, in the hope of preventing losses from pneumonia, I put artificial boxes in the aviary shelters which were very warm and dry. Many-colours, Blue-winged Grass-Parrakeets and Yellow-rumps reared healthy young under these conditions, but in the main the experiment

was a failure. All the young Ringnecks, Barrabands and Rock Peplars died of pneumonia quicker than they had done in the flights, and young Browns, Crimson-wings and Ringnecks were crippled with rickets although they had nearly a foot of earth at the bottom of their nests separating them from the wooden floor. As on the former occasion however, the Crimson-wings made surprising progress when they were taken out of the aviary shelter.

This season I substituted Vita glass for ordinary glass in all shelters, and removed the trays at the bottom when the birds were breeding, admitting far more air and moisture. These alterations were, in the main, useless so long as natural perpendicular tree trunks were not employed. Two pairs of Ringnecks had artificial boxes in the shelters. One lot of young died when a few days old; the other died of rickets soon after leaving the nest, though they were nice strong birds at the start. Another pair had a natural log hung horizontally in the shelter. The hen—a good mother—lost both her broods when a few days old. Yellow-rumps were given a bottomless, mould-filled perpendicular box in the shelter for their first nest, and in it reared five strong young. For their second nest they had a horizontal natural log in the shelter and the young died when a few days old. But in a similar log, similarly placed, Rosellas reared a healthy brood. A Red-rump Parrakeet paired to a Hooded had an artificial box in the shelter with the trays left in. Her two young hybrids lived to fend for themselves, but were weak on the wing and are now dead.

The Rock Peplar had a bottomless, mould-filled perpendicular box in the shelter, and lost her young of pneumonia when about ten days old. Another hen who laid on the ground in the open flight reared a strong brood.

Crimson-wings lost their first brood in a rather small, draughty bottomless natural log in the open flight, but reared a second brood well in a good tree trunk in the flight.

Malabars reared a strong brood in the shelter in a natural perpendicular tree trunk with a natural bottom. Barrabands reared a strong brood in a bottomless, mould-filled perpendicular box in the flight.

The results go to prove that the natural perpendicular tree trunk with natural bottom or mould gives good results either in flight

ter, preferably in the former, for hardy species not subject to egg-ling. The artificial box with no bottom but partly filled with mould give good results with the hardier species but in the shelter it is use for Rock Peplars.

The horizontal natural log is, in the shelter, little better than the ficial box and will only do for very hardy birds and for species (oddly ough in most other ways delicate), which, like Many-colours and ss Parrakeets, are resistant to the normal ill-effect of the combina- of artificial box and shelter. Pneumonia is not encouraged by the st and mouldy character of the interior of a natural tree trunk, it is not in the least discouraged by the use of disinfectants, nor the extreme dryness of the nest and its immediate surroundings. kets seem primarily due to artificial wooden floors, even when these covered with a thick layer of earth, and it makes no difference ether the nest stands out in the fresh air and sunshine or whether s in a dark place with a closer atmosphere : diet makes no difference er. Experiences with Crimson-wings are especially telling. Hen . 1 in 1921 reared in the flight a rickety young one in a natural e trunk with an artificial wooden bottom. In 1922 and 1923 she red healthy young in the flight in a perpendicular tree trunk with atural bottom. In 1924 she lost hybrid young by a Princess of les' Parrakeet in an artificial box in the flight. In 1925 she reared lthy hybrids in the natural tree trunk which had been the scene of previous successes. Hen No. 2 in 1926 had rickety young in a t in the shelter and, after a failure in a rather poor log, reared lthy young in a perpendicular mould-filled tree trunk in the flight 1927. Results may be summed up as follows :—

Artificial Box in Aviary Flight

Barrabands.—Successes 2, partial successes 2, partial failures (part brood died) 2, failures (entire brood died) 1, cases of rickets nil.

Rock Peplars.—Successes 1, failures 1, rickets nil.

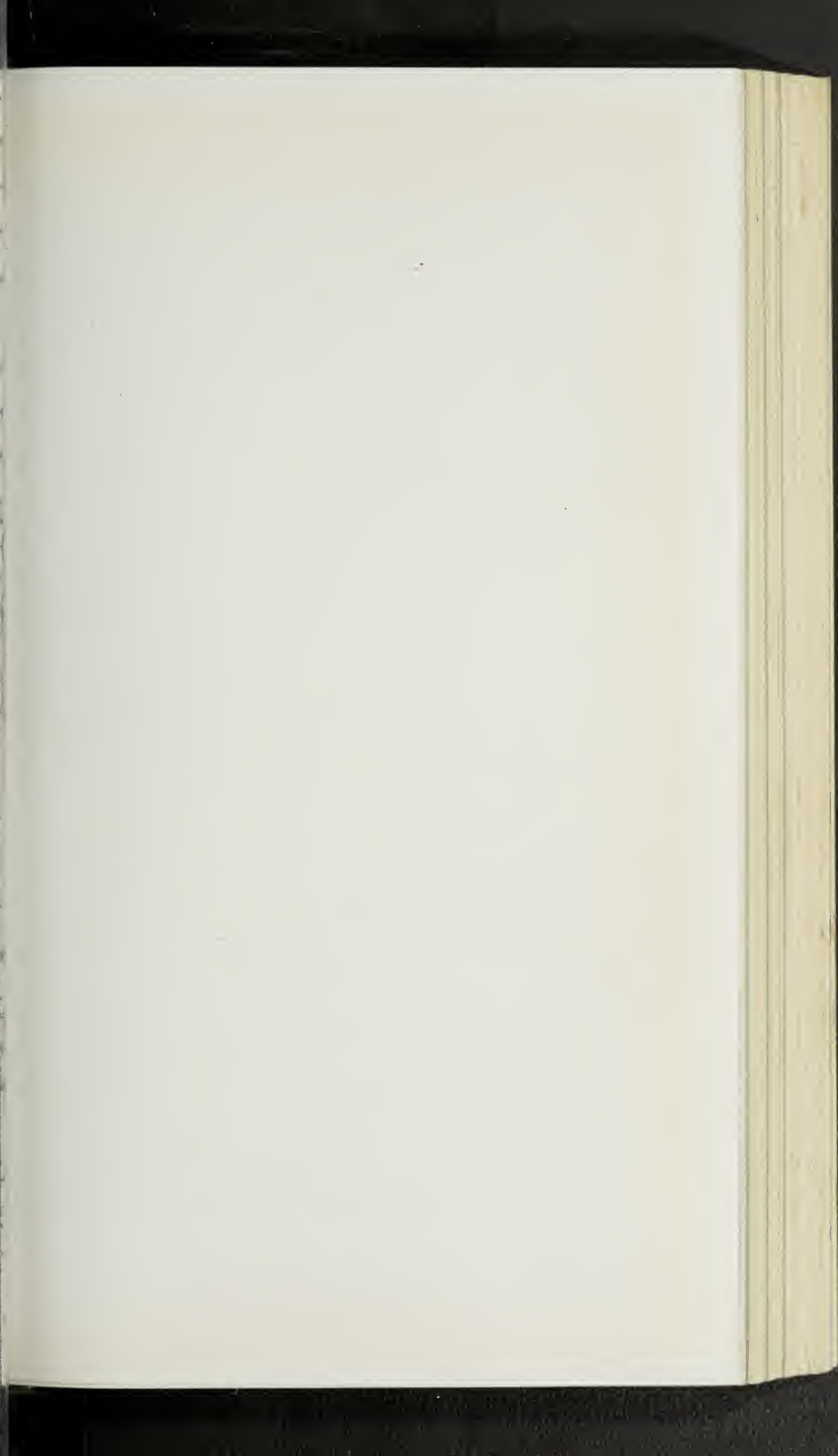
Crimson-wings.—Successes nil, failures 1, rickets 1.

Kings.—Successes nil, failures 1, rickets 1.

Princess of Wales.—Successes nil, failures 1, rickets nil.

Ringnecks.—Successes 2, failures nil, rickets nil.

*Artificial Box with Wooden Bottom in Aviary Shelter**Barrabands*.—Successes nil, failures 1, rickets nil.*Rock Peplars*.—Successes nil, failures 1, rickets nil.*Crimson-wings*.—Successes nil, failures nil, rickets 1.*Sula Island King*.—Successes nil, failures 1, rickets nil.*Ringnecks*.—Successes nil, failures 4, rickets 1.*Malabars*.—Young killed by an accident at ten days.*Many-colours*.—Successes 2, failures nil, rickets nil.*Hooded and Redrump*.—Young reared but not very strong.*Yellow-rumps*.—Successes 1, failures nil, rickets nil.*Blue-winged Grass Parrakeets*.—Successes 3, failures nil, rickets nil.*Brown's*.—Successes nil, failures 1, rickets 1.*Roseate Cockatoos*.—Successes 1, failures nil, rickets nil.*Artificial Box in Aviary Flight, without Bottom and Partly Filled
Mould**Barrabands*.—Successes 1, failures nil, rickets nil.*Artificial Box in Aviary Shelter, without Bottom and Partly Filled
Mould**Rock Peplars*.—Successes nil, failures 1, rickets nil.*Yellow-rumps*.—Successes 1, failures nil, rickets nil.*Natural Log hung horizontally in Aviary Shelter**Ringnecks*.—Successes nil, failures 2, rickets nil.*Yellow-rumps*.—Successes nil, failures 1, rickets nil.*Rosellas*.—Successes 1, failures nil, rickets nil.*Perpendicular Hollow Tree Trunk with Natural Bottom or Mould-filled
Cavity, in Aviary Flight.**Crimson-wings*.—Successes 4, failures 1 (in a poor log), rickets nil.*Sula Island King*.—Successes 1, failures nil, rickets nil.*Perpendicular Hollow Tree Trunk with Natural Bottom in Aviary Shelter**Malabars*.—Successes 1, failures nil, rickets nil.*Eggs Laid on the Ground in Aviary Flight**Rock Peplars*.—Successes 1, failures nil, rickets nil. It is rather curious that the type of nest which suits young Ringnecks well enough





Photo—D. Selh-Smith.

[To face p. 243.]

the aviary flight should be sure death to them in the aviary shelter. In the case of Crimson-wings an artificial bottom to the nest is equally fatal in flight or shelter.

I may say in conclusion that I do not suggest that my experiences with nests need necessarily be those of all other aviculturists. In the healthier climate of Foxwarren Park, Mr. Ezra has reared healthy young Barrabands under conditions which would be fatal here, and I have Madame Lécallier has reared Crimson-wings successfully in artificial boxes—I wonder if she could tell us if these have wooden bottoms? However, it is probable that there would be a tendency in most places for young birds to flourish, or the reverse, as mine have done. I would particularly warn aviculturists who lose young parakeets in the nest not to be too ready to blame the weather and still less not to be too ready to blame the parents, who are *very* seldom guilty of neglect. In nine cases out of ten when young Parakeets die before they are fully fledged it is the fault of the owner who has provided old birds with an unsuitable breeding place.

THE WHITE-CHEEKED FINCH-LARK

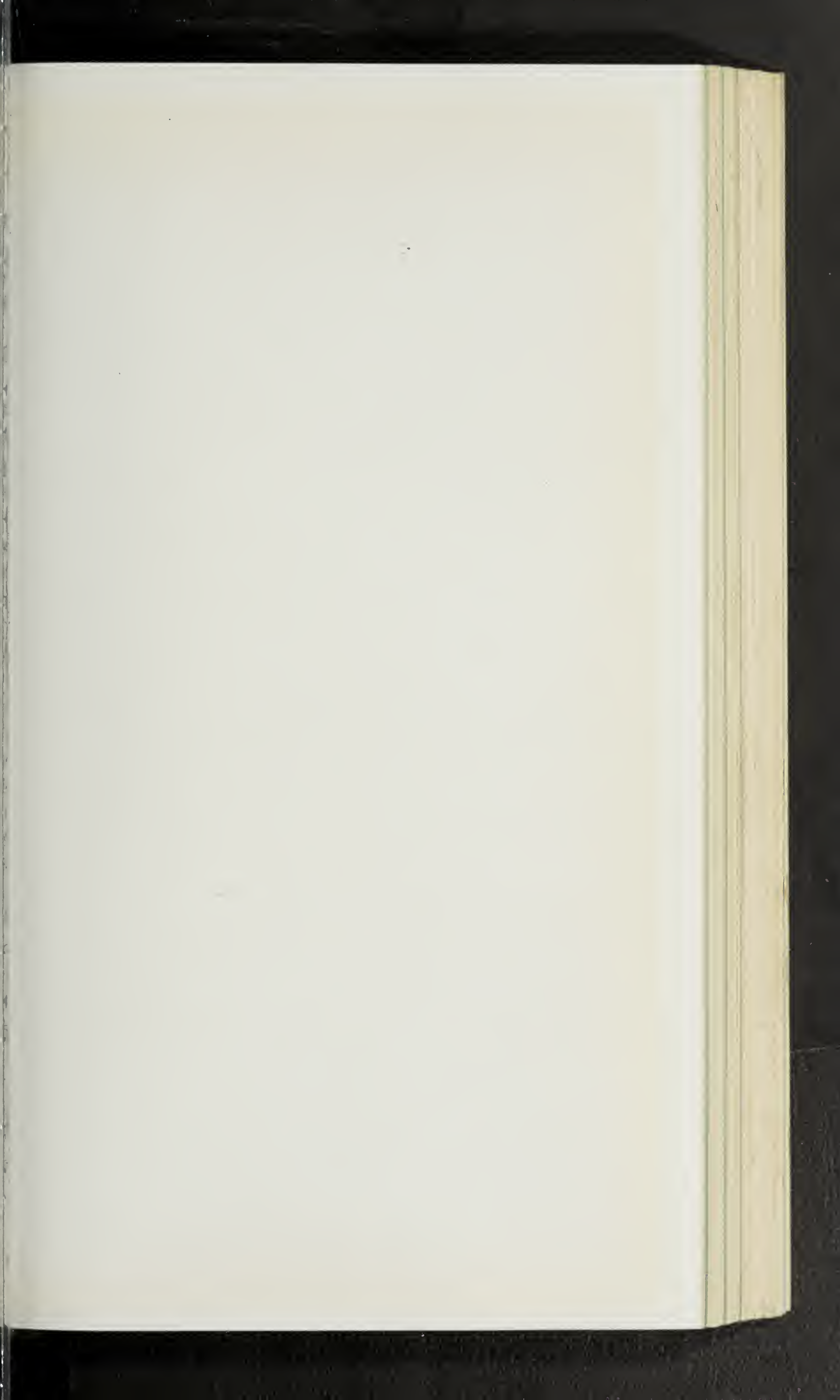
By H. L. SICH

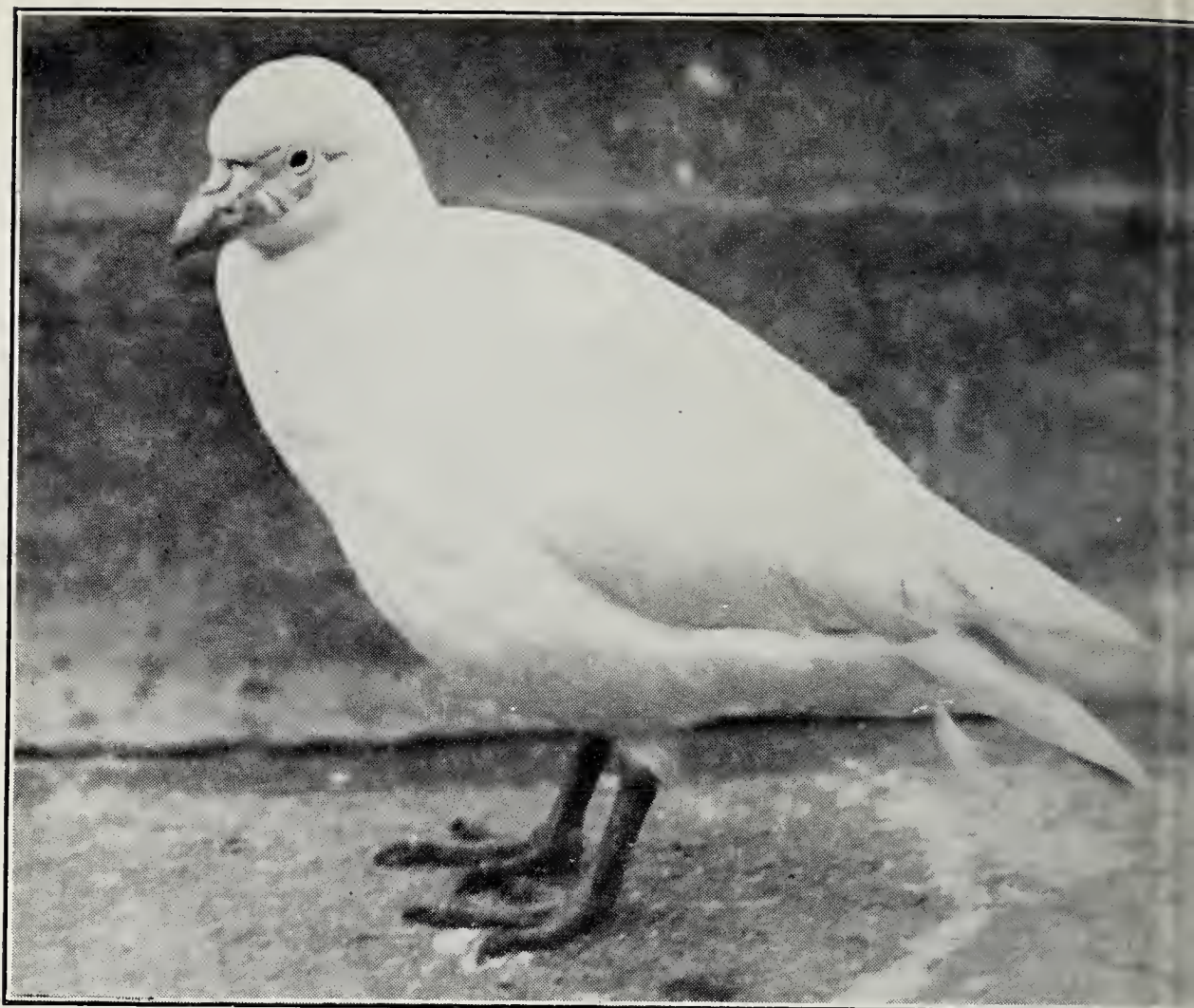
These birds are generally called *Pyrrhuloxia* or *Eremopteryx* *otis*, but the author of *Birds Bred in Captivity* says that they are most certainly the southern species, *smithi*, and mine are probably the same. In the early part of 1925 a fair number were imported, but all I could find in London were cocks; however, by writing to various dealers, I obtained a cock and two hens by 8th May. The cock consorted with one hen, but drove the other one away; this bird shed a few black feathers on the lower part of the breast which the other bird had not got. There was no further change when I let the birds out into the flight of my new aviary at Worthing at the end of May, 1926. These birds do not care for the grass and spend most of their time on two gravelly patches just inside the two doors leading into the passage into the flight; in very dry weather they sometimes run on to a strip of bare earth at one end. Under these circumstances

I have not found them very interesting. About the middle of J last year I suddenly noticed that I had two full plumaged cocks. I conclude that they take two years to reach maturity. If this comes from the south of the Equator it may have been hatched about November, 1924, which would make it about eighteen months.

When watching my birds on 9th June last I saw a harmless-looking *Turnix* strolling over the grass : as it came close to the stem of a small cupressus tree the pair of Finch-larks suddenly flew up and attacked it, one bird perching on its back and pecking at its head ; this could only mean a nest. On examination I found the cock bird squatting on the ground just where the grass meets the soil close to the stem of the tree. A yard in one direction the *Turnix* had a nest ; in the other grass close by a hen Harlequin Quail was incubating seven eggs, due to hatch in about a week. There was no chance of a ground bird rearing any young with a lot of Quail chicks scrambling over everything, so a risk had to be taken. I formed a fence with wire-netting about 2 feet away all round the nest ; of course, the birds flew away during the process, but a few minutes afterwards the hen was back again. The nest was only a slight hollow, rather thickly lined with hay, and contained only one egg, coloured very much like the dark brown variety of that of a Skylark, much smaller, rather longer, and less pointed in shape. Both birds incubated till 21st June. I fancied that my going into the aviary to feed the Quail chicks had disturbed them, but there were no signs of a chick in the egg when blown. On 23 June they were incubating one egg again, in the same nest. On 7 July they had deserted it : there was no chick in that either. They have not nested since. Only laying one egg seems rather curious, but a single bird was reared in 1917 by Mr. Shore-Baily, and AVICULTURIST MAGAZINE, August, 1924, pp. 183-4 : " Witherby found a nest about Khartoum. . . It contained one egg." Perhaps insects to feed the young with are scarce in their habitat, and one at a time is all they can manage.

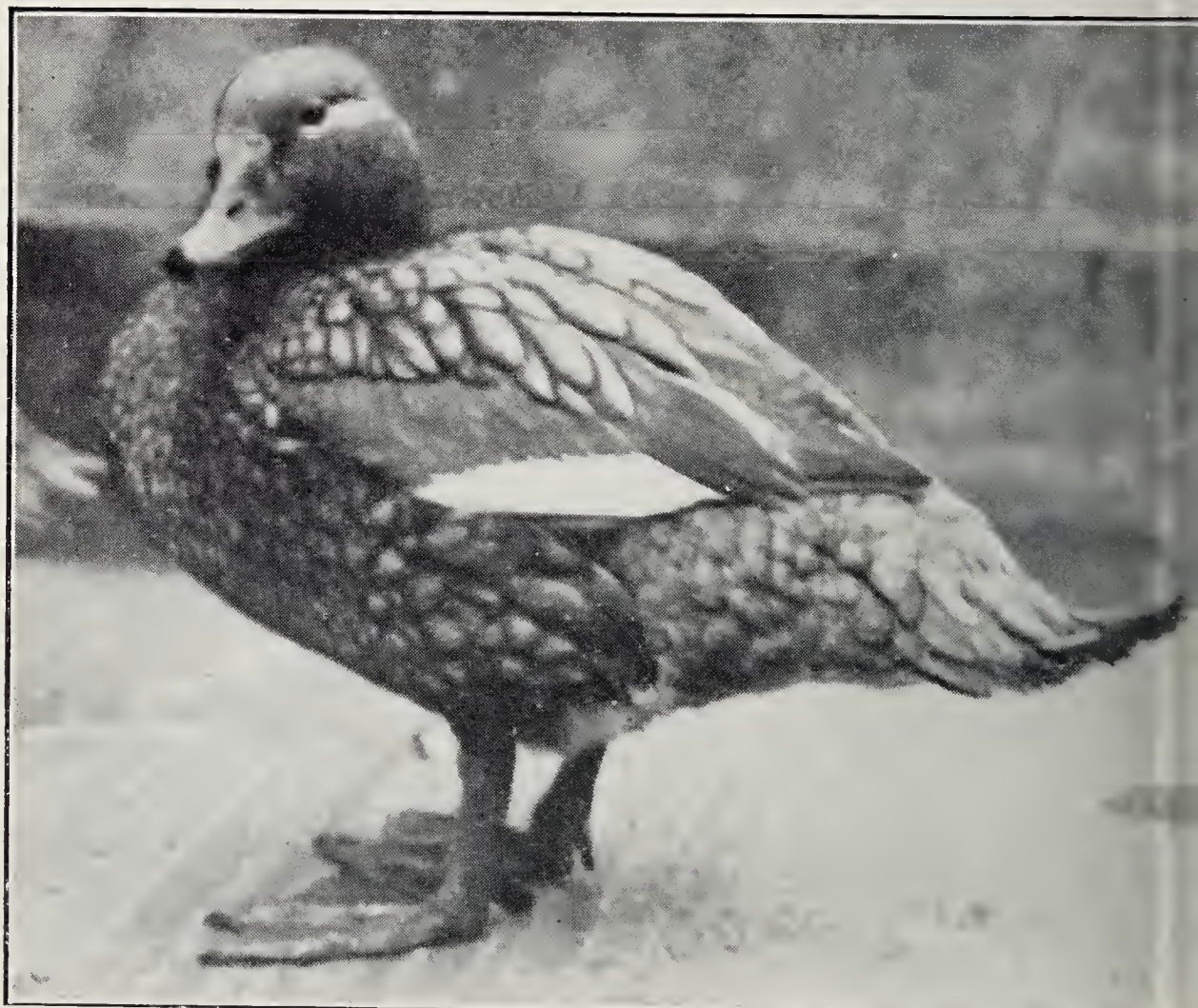
[The Southern White-cheeked Finch-lark bred successfully in the London Zoological Gardens in 1917, and the accompanying photograph shows the cock bird about to feed the two nestlings. The nest was on the ground at the foot of a small bush. The young birds were





Photo—D. Seth-Smit

Sheathbill (*Chionis alba*).



Photo—D. Seth-Smit

Steamer Duck (*Tachyeres cinereus*).

Tc face p. 245.]

hered in very dark brown, the feathers having paler brown tips, according to notes made at the time, as the young birds sat huddled together in the nest, their colouring was wonderfully protective. It is most difficult to detect them, and when found they resembled all toads rather than birds.—ED.]

STEAMER DUCKS AND SHEATHBILLS AT THE ZOOLOGICAL GARDENS

Through the kindness of Dr. Stanley Kemp and Mr. A. G. Bennett, the "Discovery" expedition the Zoological Society has received several examples of the Steamer Duck (*Tachyeres cinereus*) and five of the low-billed Sheathbill (*Chionis alba*) from the Falkland and South Atlantic Islands.

The Steamer Duck is a large, heavily built bird with a dark brownish head and the body more or less spotted with grey, the bill of the drake orange yellow and that of the duck greenish yellow, the feet also orange yellow. The under surface is white in both sexes. There would appear to be two distinct types of this Duck, the one greyish in colour, but in very old birds the head as well as the body becoming lighter, the other type being mostly reddish in colour and smaller. Moreover, the larger grey or greyish birds have short wings and are flightless, whereas the smaller redder birds have longer wings and are capable of flight.

The larger type is met with in the Straits of Magellan and the open sea, whereas the smaller birds frequent more the inland lakes of Southern South America. These two types or races of Steamer Duck have long been a puzzle to ornithologists, for it is known that the one is not the origin of the other as has been suggested, and, moreover, it has been observed that the two sometimes interbreed.

Steamer Ducks are so named on account of their habit of swimming with great rapidity with the aid of both wings and feet, a mode of progression that has been likened to "steaming". They spend a good deal of their time sitting on the rocks, and have their nests beneath the shelter of some bush or rock.

The bill of the Steamer Duck is very powerful and capable of crushing shells such as mussels ; shell-fish, in fact, forming a considerable part of its food. On four occasions only has the species been exhibited at the Zoological Gardens, the last being forty years ago.

The Sheathbills (*Chionis*), of which there are two if not three species, superficially resemble large white pigeons, though in reality they are related on the one hand to the Plovers and on the other to the Gulls. But they are very distinct from all other existing species of birds. Their bills are powerful and carry a peculiar sheath, the use of which has never been satisfactorily determined, and the feet are not webbed. *C. alba* inhabits the Falkland Islands and South Georgia, where it is accompanied by some three or four species of Penguins as its companions, and the eggs of which form the chief food of its young. It is an omnivorous feeder, a scavenger to which little comes amiss from crustacea and sea-birds' eggs to the excreta of Seals and Penguins.

Sheathbills have been imported previously on rare occasions, but not for a number of years.

D. SETH-SMITH

CORRESPONDENCE

THE SMALLER MACAWS

SIR,—In Miss Knobel's very interesting article on the smaller Macaws, she asks for experiences.

I had a Severe who could whistle and say "Come hon": he had no water, except to drink. He was pinioned when I got him, and in summer-time he spent most of his time at liberty in the garden. In winter he made for the nearest shelter. One day a heavy shower came, and I could not find him anywhere: after a time I heard his usual cry "Come hon"; he had climbed over the fence into the waterfowl enclosure, and was sitting with a Duck under a nest-box. He was on good terms with the fox terriers, so I had no fear of cats and vermin.

I have had two Spix Macaws. One, I think, was an adult-caught bird and was never tame; the other was very tame, but seldom made a sound.

A pair of Illiger's Macaws I got from Mr. A. Zache were very shy, but were all in all to each other, and cared little for me and could not be handled. I have had at one time or another all the large macaws, except the Glaucous. I cannot remember ever hearing any of them whistle.

I have a Scarlet (Yellow Saddle-back) Macaw who whispers to you ; he is a good talker and sings songs composed by himself.

JOHN W. MARSDEN.

THE NESTING HABITS OF HONEY-GUIDES

SIR,—Mr. Sydney Porter is to be envied his acquaintance with such a charming bird as "William", the Yellow-throated Honey-guide : at the same time he is to be commiserated with, in that he was unable to bring him back to England.

Concerning the parasitic nesting of *Indicator*, Lydekker writes (*Wild Life of the World*, vol. iii, pp. 150, 151) :—

"According to a recent account, the widely distributed African Yellow-throated Honey-guide (*Indicator major*) in most cases makes use of the nesting-hole of *Spreo bicolor*, a bird which, like the Honey-guides themselves, lays white eggs. The Honey-guide's eggs are, however, less elongated than those of its hosts, among which are certain species of Swallows, as well as other birds laying white eggs. Whether Honey-guides lay more than one egg in the *Spreo*'s nest is not mentioned, but it is stated that these birds whenever possible break the eggs of their hosts with their beaks, thus ensuring that their own eggs shall alone hatch. The most remarkable point connected with this egg-breaking business is that the *Spreos* or other hosts should continue to sit. Their parasitic habits being apparently well known, the Honey-guides are in most cases fiercely attacked by the owners of the nests visited, and in some cases the resistance prevents the intruders from breaking the original eggs. In such instances the young Honey-guides probably eject their fellow-nestlings, and it is noteworthy that the beaks of the former are furnished with powerful hooks, which appear in the adult. This, it is conjectured, is a provision to assist them in ejecting the other occupants of the nest. It has also been

noticed that a young Honey-guide taken from the nest of a Diamond Sparrow (*Petronia petronella*) was very large for its age; here again exhibiting a Cuckoo-like feature. The mention of a single nest in this instance suggests that the Honey-guides lay only one egg in a nest. As *Indicator* is common to Africa, Malaya, and the Himalayas, it would be interesting to ascertain if the parasitic habits of the African species are shared by their Asiatic cousins; but as the Himalayan bird is believed to lack the 'honey-guiding' habit of the South African species, it may also differ in the matter of egg-laying."

Perhaps Mr. Porter, if he has had the opportunity of studying the nesting habits of the Indicatoridæ, would be so good as to comment on the above, and make known his own observations.

D. G. PRESTWICH.

LOVEBIRDS

SIR,—There is a slight error in Mrs. Prestwich's article, where I am credited with finding the Peach-faced Lovebird a poor stayer at liberty. It is the Black-cheeked that gave disappointing results. While I cannot say that I have never lost a Peach-face by straying, I got very few results with them when free in the garden. Many young were reared and the old birds did not appear to be migratory in the autumn.

TAVISTOCK.

THE DERBYAN PARRAKEET

SIR,—With the acquisition of two new specimens by the Zoological Society the number of this rare Parrakeet in captivity in this country would appear to be raised to four. A male bird came into my possession a few months ago, and has since done well. He was in perfect condition on arrival, although he had evidently been closely confined for a very long time as he had the cage-cramped habits of a bird which has forgotten how to use its wings or even climb. For several days after he had been turned into an aviary it was necessary to hold him up seed and water up to him on the perch, as he would have starved before he ventured to descend the wire to the food dishes. He is perfectly

e, and very amiable in disposition, having the little courtly mannerisms characteristic of male *Palæornis* Parrakeets that have been treated as pets. On the approach of a friend he keeps bowing and shaking the perch with his beak, moves his lower mandible very slowly, and makes a little sound between a puff and a hiss. When startled by the presence of visitors he utters very loud, harsh, and violent calls which would render him intolerable inside a building. Judging from appearances, the nature of its habitat and the fact that it is a glorified edition of the Moustache Parrakeet, the Derbyan is probably an excessively hardy bird which it would be difficult to kill except by violence. Mine is fed on the usual seed mixture, together with monkey nuts and apple, of which latter he is very fond. Like other Parrakeets he greatly enjoys a rain bath.

TAVISTOCK.

THE BREEDING OF THE BIB FINCH AT LIBERTY

SIR,—Last May I obtained two or three pairs of this soberly-coloured but not unattractive little bird, and after training them to enter an aviary shelter through a little door a few inches in diameter, gave them full liberty. They stayed and did well, and after some weeks my aviary attendant reported that they had bred. On my return home in August, amongst the first small birds I saw in the garden were two young Bib Finches on the feeding tray, very well grown, and only differing from their parents in the lack of bib.

I have yet to winter them, but I do not anticipate great difficulty in this, and it would appear that the Bib Finch can be added to the list of small, common birds whose presence at controlled liberty can be made to add beauty and interest to a well-planted garden. In spite of its diminutive size and quiet coloration the Bib Finch is by no means inconspicuous at liberty, as it is tame and not at all retiring in its habits.

TAVISTOCK.

LEAD POISONING

SIR,—Some time ago I bought *lead* wire for fastening labels on ro and, unthinkingly, used this for fastening drinkers on cages.

I use the cages for isolating birds for a few weeks after receiving th from dealers.

All went well with ordinary hard bills, but latterly I have ta up Lovebirds and Parrakeets.

About a month ago I got a pair of Masked Lovebirds from Chapma and put them in one of these cages, and found, on the second morn they had eaten the wire through and spilt their water.

I fastened the drinker up again with stronger *steel* wire, and thou no more about it. On going to feed them the following day I found cock completely paralysed in the legs, and so he still remains a three weeks, although in other respects quite fit.

The same thing happened to a pair of Budgerigars before I fo out my mistake ; one Budgerigar died after severe contortions.

Perhaps you may think it worth while publishing this as a warn to fellow aviculturists, who may, like me, find soft wire very e to use.

I have a young Black-cheeked Lovebird on its own, hate 16th June, and should like to know if this is the first breeding succ in Ireland.

A. E. BLYTHE JACKSON

BREEDING THE MASKED LOVEBIRD

SIR,—Just a line to say that I have had a hatch of the Mas Lovebird (*Agapornis personata*). Doubtless other enthusiasts c report a success as early, if not earlier. The hen began to sit on 8th Ju and was still on three eggs when I left home on 4th August, on return to-day, 17th August, I found two young ones. Incubation m have lasted at least twenty-five days.

Two other nests, which were started about the same date, app to contain addled eggs. These young are covered with the oran coloured down characteristic of the Lovebirds. It remains to be s how long they remain in the nest, provided all goes well.

M. T. ALLEN

COLOUR BREEDING IN BUDGERIGARS

SIR,—The first three lines of your most interesting article in last month's Magazine recall my own experience; my elder sister had a Budgerigar given to her when I was about 5 years old.

I was 11 years old when I got my first Budgerigars, and that is 25 years ago than I care to think about. You refer to percentage of blue young; several of us tried this theory many years ago, with blues and yellows, but the 25 per cent and 50 per cent did not turn out, and I have tried it with blue and green since, without success.

On the other hand, one member, Mr. Danys Weston, has proved it to work out with blues and greens. Now he used blues that had been bred from blues for several generations, whereas I used blues bred from blue-bred greens.

I like a dark blue (not cobalt) better than a sky blue, and as I do not show, nor breed for the market, I seldom pair two blues together.

I think this proves that unless the blues are bred from blues and the same blood bred out, they are not potent enough to prove this theory.

I was the first to introduce a blue-bred strain, and I find that the further the pedigree of the blue-breds, more blue young are produced; in breeding it is not so much the colour of the birds, but pedigree that counts. I have known young of other colours produced in an aviary of only blue birds; these would be the best of blue birds, of course; in producing a new colour, you would give consideration to the quality of breeding stock, as well as pedigree. I think the olive was introduced by selection, so now we really have four shades of colours for budgerigars: green, yellow, blue, and olive.

It is a long time since I had any Pennants, or saw any young ones, as far as I can remember, the nest feather is nearly all olive green, many generations ago the Pennant must have been an olive-green bird. Now we have olive Budgerigars and the mauve has a pink shade showing the blue, so we are sure to get pink or red Budgerigars in time. I have already heard of two cases of birds that show a few pink feathers.

JOHN W. MARSDEN.

MEMORIAL TO THE LATE MR. HUBERT DELAVAL ASTLEY

Mr. Allen Silver writes :—

“ In peaceful Herefordshire, where no sound but the notes of birds and the rustle of leaves in a hay-scented breeze broke the stillness of a beautiful afternoon, stands the small church of St. George, situated in the parish of Brinsop.

“ A little before 3 o'clock on the afternoon of 30th July, a voice could be heard calling to those who were gathering together in memory of our much esteemed and friendly late member.

“ The almost mediaeval atmosphere of this little church with the sounds of ancient pipe organ and viols was most impressive, and the Right Reverend Dr. Trollope, in dedicating a window to the memory of Hubert Delaval Astley, alluded in his address to the great interest that was taken and the love that was shown by him for all things beautiful.

“ One has only to look through a series of volumes of our Magazine to know how true this was, and to many of us who knew him personally his memory will be long cherished like the sunshine and breezes of a beautiful summer afternoon.”

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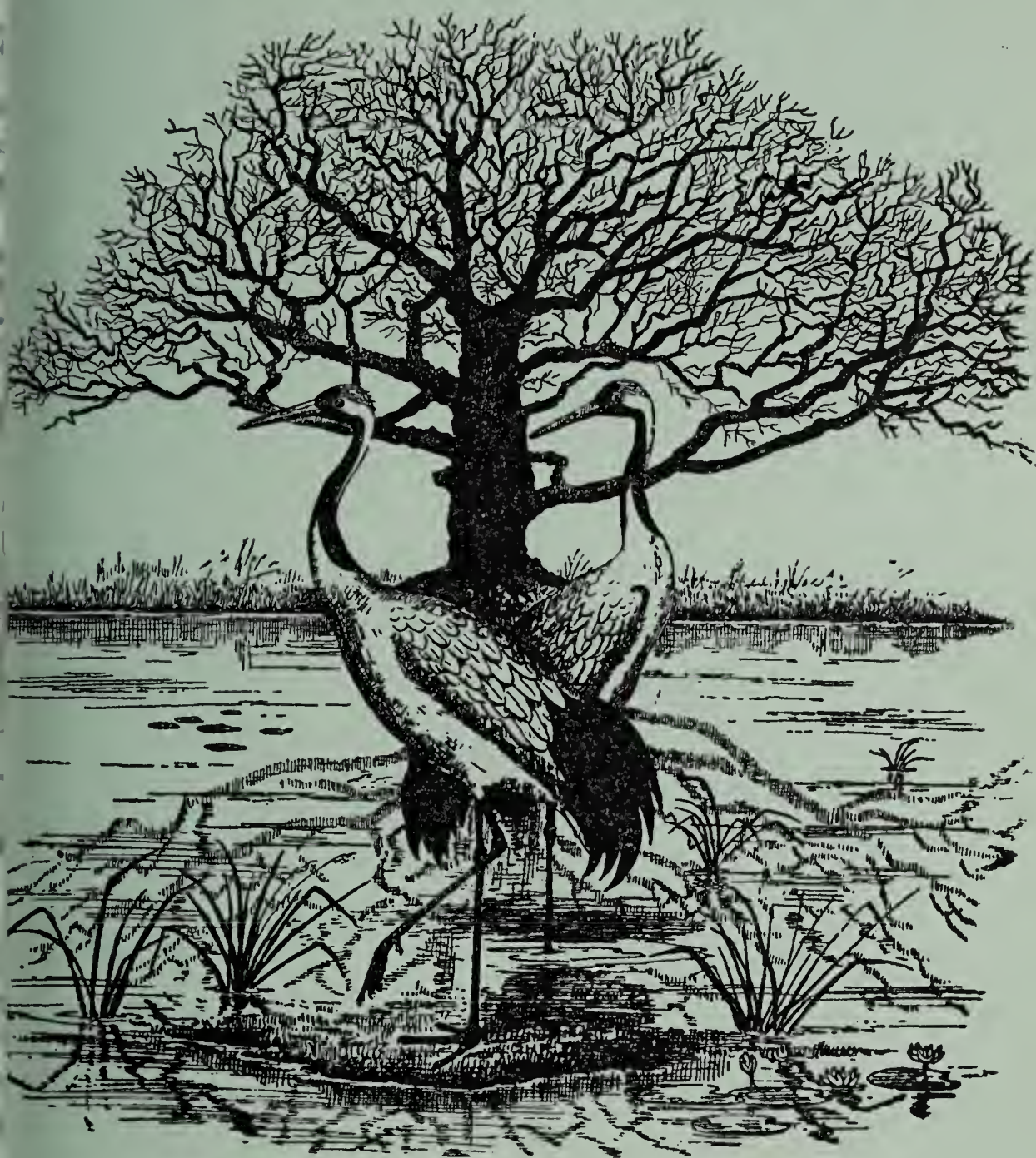
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THE AVICULTURAL SOCIETY.

FOUNDED 1894

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The Subscription to the Avicultural Society is £1 per annum, due on the 1st of January in each year, and is payable in advance. The entrance fee is 10/6. The *Avicultural Magazine* is sent free to members monthly. Members joining at any time during the year are entitled to the back numbers for the current year, on the payment of entrance fee and subscription.

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Rule 1.—A short account of the illness should accompany the specimen. All birds to be sent as fresh as possible to Mr. C. H. HICKS, The Prosectorium, The Zoological Society of London, Regent's Park, London, N.W. 8.

Rule 2.—Should any member require an immediate reply, a stamped and addressed envelope must be enclosed with the bird.

Rule 3.—No body or skin of any bird will be returned under any circumstances whatever.

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IN FREEDOM & CAPTIVITY

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OCTOBER, 1927

THE BREEDING OF THE CROWNED WOOD PARTRIDGE

By HERBERT WHITLEY, F.Z.S.

Our worthy Editor informs me that there is to be a plate of the Crowned Wood Partridge (*Rollulus roulroul*) in the Magazine, and as I have been fortunate enough to breed this beautiful species, it is my duty to record my experiences with it. To those unacquainted with the adult birds, the excellent plate accompanying these notes gives a life-like representation that further description is unnecessary. The Roul-roul is the sole member of its genus which is characterized by the presence in both sexes of long hair-like bristles springing from the middle of the forehead. All the Wood Partridges, and there are two other genera, have the claw of the first toe rudimentary. The home of the Roul-roul is in "South Tenasserim, Malay Peninsula, Sumatra, Java, and Borneo" (B.M. Catalogue), and I understand that it is upon the well-wooded hillsides at an elevation of from 1,000 to 4,000 feet, that it is usually to be found in "coveys" of from two to a dozen.

To the late Sir William Ingram belongs the credit of being the first to hatch the Roul-roul in captivity, and twenty years ago he was far successful in that he reared a chick so hatched to the age of three weeks in one of his aviaries at Monte Carlo. A drawing of the chick and an interesting account of the nesting habits of the bird appear in *AVICULTURAL MAGAZINE*, New Series, Vol. VI, p. 38.

I purchased my first pair of Roul-roul from Chapman in the late summer of 1924. These were shortly afterwards turned out into a fairly large aviary thickly planted with shrubs and in which there was a good deal of undercover.

The cock bird never seemed to thrive, and about six weeks afterwards he was found dead under one of the bushes. The hen, on the other hand, appeared to improve and later came through a good moult. She passed the winter in this aviary to which was attached a lofty shelter without artificial heat. She frequently roosted in the open, and even in very severe weather the door of the shelter was never shut, while the large window near the top of the shelter was continuously open night and day.

I must here interpolate the remark that I do not recommend the spartan treatment for Roul-rouls, as this last winter during a prolonged spell of wet I found that the damp earth "balled" on their feet, and that both parents and chicks seemed happier and naturally more active when brought to a somewhat drier atmosphere where their feet soon recovered from the chaps which were starting to form on the underside of their toes.

As a mate for the hen I purchased, in December, 1925, a cock bird from Mr. Hebb, of Luton. The weather being bad and the time of the year unfavourable, I kept this bird for some time shut in a roomy cage, but eleven days after his arrival he had the misfortune to break a leg; this was on the 29th of the month. Having set the bone to the best of my ability, with a bandage soaked in white of egg, I kept him in the cage until 3rd January, 1926, when preferring to risk the weather rather than he should disturb the setting of his limb, I turned him out in the large aviary with the hen. I have mentioned these details in order to show that, whilst these birds probably prefer rather more warmth than an average English winter brings, they are certainly not delicate.

On 3rd May the aviary attendant's notice was drawn to the cock standing under a laurel and near him a small mound of sticks and dried leaves towards the centre of the bush. This mound was shaped like a tunnel, with a small entrance hole in the front; upon closer observation the green body feathers of the hen bird were visible within. Later in the evening the aperture was completely sealed and the cock had gone to roost in the laurel above.

Some few days afterwards the hen was seen to be feeding, and a visit to the mound disclosed the fact that she was therein incubating three white eggs, almost round, with the shell having almost the same texture and substance as the egg of the Guinea Fowl. The size of the egg is given by the late Mr. Astley as diameter 1.25 in., axis 1.55 in.

The hen proved a very close sitter, and this was the only occasion on which she was found away from her nest. Every night she was called up inside and presumably she did this herself from within, but it is possible that the cock lent a hand as he was invariably on guard. In my experience differs from that of Sir William Ingram, who said that his male bird kept "as far as possible from his partner's side".

After three weeks the hen was gently driven from her nest, and the eggs were found to be unfertile and removed.

About this time I considered it advisable to take off the bandage which still adhered to the male bird's leg, and on 17th July the hen was reported missing. After a prolonged search—and I would here emphasize the marvellous way in which the domed nest was hidden with the surrounding foliage—her whereabouts was discovered on the other side of the aviary, at the foot of an old disused feeding altar, and seventeen days later the mother made her appearance with three tiny chocolate-coloured chicks. One of these was noticed to be weaker than its fellows, and was found dead later in the day. About a week after this one of the remaining three chicks disappeared and was never found, the other two reaching maturity and proving to be one of each sex.

Sir William Ingram gives the period of incubation as eighteen days, and with me the hen might have been sitting a day or two before she was reported absent.

Apart from the Roul-roul's ordinary food (grain, insectivorous food, bread, and milk, and cut-up fruit) there was supplied finely chopped egg and bread crumbs, chopped green food, and mealworms or gentle caterpillars. Both the old birds took a hand in feeding the young, but the hen alone brooded them and this she was never seen to do except under the cover of the nest.

It might be of interest here to remark that, as far as my knowledge goes, green as a colour is unknown amongst the gallinaceous birds, save in the female of this species, and in the males of the Blood Partridges and Blood Pheasants (*Ithagines*).

Did the hen Roul-roul acquire her comparatively bright plumage (i.e. for the brooding sex amongst game birds) because she builds a domed nest for herself or does she build a domed nest because she has put on somewhat gaudy attire? Perhaps those interested in "protective coloration" will give their opinion. Doubtless she is "protectively coloured" whilst moving about amongst the changing lights in heavy woodland, but presumably her vivid green tint would be conspicuous when at rest.

At a fortnight old the chicks were able to fly into the low bushes and roost with their parents. In their first plumage the young birds had the body chocolate brown with speckled wings and a small cream fawn spot on each tail feather. As the moult took place the sexes became discernible, and in three months or so they were almost indistinguishable from the old birds, except in size. The white band across the top of the head of the adult male bird took some time in manifesting itself in the chick of the sterner sex.

In the early months of this year, when I brought the family under cover for the reason stated above, the young male was if anything finer bird than his father. Presumably four eggs would be the normal clutch for these birds.

THE ARRIVAL OF FISCHER'S LOVEBIRDS (*AGAPORNIS FISCHERI*)

By CAPT. H. S. STOKES

For the third time in eighteen months a new species of Lovebird has come to us, through the enterprise in each case of Mr. Chapman. This species hails from Tanganyika, and was recently depicted in our *Magazine*. But we find on comparison with the living bird that it is not green on the back of the head as painted, but the same bright orange colour as on the face and neck. It has a blue rump, and is the same size as the Nyasa Lovebird, and not so highly coloured, in our opinion so attractive. Probably it will breed equally freely, and in this connexion it may be useful to mention the experiences of this year.

During the spell of dry, cold winds in April and May all Lovebirds, Nyasa and Black-cheeked, proved unfertile. They were thought to need a cool, damp atmosphere more like their rain-soaked native country.

Mr. Denys Weston devised a nest-box with a false bottom, below which is a drawer packed with sphagnum moss which can be moistened when necessary.

One of these boxes was given to one pair of Nyasas and an ordinary Alderigar box to another pair. Large baths filled with long grass and groundsel were placed in each aviary and damp moss also thrown on the floor. The result from both boxes was just the same, each pair having reared a clutch of five young from as many eggs. The bath would be big enough to oblige the birds to get into it among the damp rubbish, which is bitten off and taken into the boxes, and doubtless supplies the necessary moisture. The Black-cheeks reared one young only out of four eggs, and this one unfortunately died after leaving the nest.

Lovebirds are rather a problem in the winter: they do not do very well in cages; if their aviary is quite cold they need sleeping boxes, in which case they insist on perpetually breeding, and if a paraffin lamp is used, as in my case, to exclude frosts and provide a little comfort, the atmosphere probably becomes too dry.

NOTES ON THE PERFECT LORIKEET IN CAPTIVITY

By the MARQUESS OF TAVISTOCK

Last winter, while visiting Mr. Lewis' fine collection, I was interested to see three specimens of this lovely little bird, *Psitteuteles euteles*, recently imported, and practically new to aviculture. Although I had given up keeping Lorikeets some years before, as Mr. Lewis did not want them himself, I was tempted to buy them. Unfortunately before I was able to take charge of them one of the cocks died. The pair I took home myself, not caring to leave such delicate treasures to the tender mercies of the railway company. They arrived in good condition, but further ill-luck was in store. I told my aviary attendant to give them Lorikeets' food. He misunderstood me and gave them Hangar Parrots' food—mashed banana and sponge cake—which they would not touch. The result was that next morning I found them in a very shaky condition and before the proper diet could be obtained the cock collapsed quickly and died. The hen soon revived on Dr. Allinson's Food prepared as for infants and sweetened—the only diet on which I have been able to persuade all Lorikeets to thrive and keep free from fits. On this, with the addition of a few sweet grapes, she has lived ever since.

After a considerable period of quarantine in the hospital the Lorikeet was moved to the warm bird-room and thence, late in May, to a large outdoor aviary with a heated shelter, of which latter she has made full use. When in the cage she was quite tame and almost inclined to be friendly, but after a summer in the aviary she has become very wild. In her movements and behaviour she resembles the *Trichoglossus* Lorikeets, as also in her sharp cries, though being no larger than the Tui these naturally have little power. Her general plumage is bright glossy green, somewhat paler on the breast. On each cheek there is a curious patch of yellow feathers interspersed with blackish ones in a manner to give the former a streaky appearance. In the centre of the upper part of the rump is a small patch of brilliant, deep blue. The pointed tail feathers are first green, then red, and at the tip yellow. The beak is red and the feet and legs, unlike those of any other living

not I have seen with the exception of the Queen of Bavaria Conure, reddish pink, like a Barbary Dove's. The gorgeous little cock was quite differently coloured, having dark blue cheek patches instead of yellow and black ones. It is a thousand pities that an unlucky accident robbed me of the chance of breeding this interesting species.

THE BREEDING OF HYBRID CRIMSON-WINGED × SULA ISLAND KING PARRAKEETS

By the MARQUESS OF TAVISTOCK

This article might also be entitled "Per ardua ad astra", for although I have had my Sula Island hen nearly nine years and she has laid once or sometimes twice most seasons and sat diligently, she has been a very difficult bird to mate with success. Her first partner was a Red Shining Parrakeet, but her eggs with him were never fertile, perhaps because he was twice her size which is considerably less than that of a Common King. When the Red Shining died I attempted to pair her to an Alexandra Parrakeet, but he never took to her and she was afraid of him, which was odd, as she was by far the more powerful bird of the two. I next tried her with Australian Kings, but she bullied them out of life although she was nearly a third smaller than they. I believe they took her for a cock by reason of her plumage, and the result to her sex was more than she could endure! Parrakeets are apt to be strangely stupid in such matters and by no means so unerringly guided by instinct as one would expect. Adult Cock Barrabands will display to cocks in first plumage with the greatest energy and are obviously quite deluded into the belief that they are hens.

Finally, noticing that the Sula Island seemed attracted by the cock Crimson-wings I had at liberty, I decided to offer her a Crimson-wing for a mate. She obviously admired the fine male I introduced into her aviary, although she was a little afraid of him, and had he possessed the disposition of a gentleman all might have gone well from the beginning. Unfortunately, however, a Crimson-wing has no manners at all and considers it a necessary preliminary to married life to impress his hen with his fine, masculine qualities by pursuing her with curses

up and down the aviary, biting her whenever he is able to catch her. A female Crimson-wing understands this method of courtship, and apparently quite enjoys it, but hens of other species do not. When the cock flies at them with his beak open, calling them unmentionable names, and endeavours to pull a mouthful of feathers out of their backs, they conclude that he dislikes them, and the more persistently he declares his passion with strange oaths, the more hurriedly they fly before him. This happened in the case of the Sula Island. When the breeding season arrived her companion, I am sure, really quite liked her. He got very thrilled over her visits to the nest-box and even displayed to her at times, but he could not bring himself to force the formality of the preliminary thrashing, even when she was most anxious to be on intimate terms with him, and she on her part could not screw up her courage to the point of allowing him to bite her. So the end of it was that the eggs were unfertile.

During the winter, however, the Sula Island made herself master of her turbulent partner, and I had great hopes that the change in the relationship might spell better fortune during the following spring. Once, indeed, it seemed as though an accident would restore the former position: in moving her we allowed a hen Crimson-wing to escape, and she flew to the aviary occupied by the cock Crimson-wing and the Sula Island King. The cock was thrown into transports of excitement at the unexpected appearance of a lady of his own race, and once fell upon the Sula Island and quickly put her to flight. He captured the disturbing visitor as quickly as possible, and when his presence no longer excited him to deeds of valour I was relieved to find that the cock Crimson-wing once more accepted the domination of the King, to which he had become accustomed. However, no better fortune was in store, for the Sula Island King's eggs were again clear. Worse still, as soon as she started to sit the Crimson-wing made himself master and when the eggs were removed began to harry her so unceasingly that in disgust I separated them and allowed him to set up house with the female of his own kind already alluded to. This he did without a moment's hesitation or regret for his late companion. So relieved, indeed, was he to be rid of the Sula Island that he scarcely addressed a single cuss-word to his new bride and for

few weeks showed her more affection than I have ever seen in a
 nson-wing before or since ; I fear I must, however, add that he
 proved unable to keep it up indefinitely, although he is still with her
 is rearing a family at the moment. About a fortnight after the
 nson-wing had been removed, the now solitary Sula Island laid two
 e eggs, one of which, to our intense astonishment, proved fertile
 hatched ! The triumph was, however, short lived, as the chick
 l when only a few days old, owing, as I now know, to the unsuitable
 ire of the nest, an artificial box in the aviary shelter being, in this
 e, a perfect death-trap for any young King or Crimson-wing.
 spite of the belated and unexpected measure of success attained
 n the cock Crimson-wing, I felt it useless, now that he had settled
 n with a mate of his own species, to try further experiments with
 and the King. I therefore obtained a new Crimson-wing, choosing
 wo-year-old bird not quite in full colour, in order that the Sula
 nd might be able to discipline him and teach him manners before
 had developed the hooligan disposition of his race and sex. All
 t well during the autumn and winter, the Sula Island keeping the
 nson-wing well in his place. Early in March they became friendly
 paired and although she had no nest the King insisted on laying
 e eggs on the sand on a zinc tray in the shelter immediately under the
 ling dish. This was not at all what I wanted as I planned to give
 a natural tree trunk in the flight as soon as the weather became mild.
 aviary attendant put the eggs on a concave wooden nest bottom
 l the Sula Island proceeded to incubate them with great steadiness,
 y flying off for a few moments when the little door above her head
 s opened to replenish the food dish. I was, however, far from
 isfied about the probable fate of the chick which might hatch from
 one fertile egg. Young *Aprosmictus* Parrakeets develop cramp
 l rickets on an artificial wooden floor as surely as Ducklings, so
 ecided to try the Sula Island's patience by yet another interference
 h her domestic arrangements. With great skill and by dint of
 rculean labours, the gardener and two assistants cut a gigantic
 f about 4 ft. square and 18 in. thick. I turned the Sula Island gently
 her eggs and shut her out of the shelter. Then we removed the
 oden block, established the turf, bottom upwards, in its place, and

put the eggs in a hollow on the top. As soon as I pulled up the slip the hen, who had been quietly eating monkey nuts most of the time we had been banging about in her home, went back to her eggs and nest, I was going to say "like a lamb", but as lambs are not noted for steadiness during incubation, "like a broody Dorking hen" might be a better simile. That is the best of Parrakeets: they will stand any reasonable and often quite a lot of most unreasonable interference with their nests without deserting. They are wise birds, and, with rare exceptions, devoted parents, very different from those addle-pated Finches and Softbills that desert, at the most trivial disturbance, even their helpless young. Unfortunately all our trouble was once more vain. The Sula Island sat over her full time, but the chick was dead in the shell. I forgot to mention that soon after she had begun sitting the Crimson-wing developed bad manners, made himself master and bullied her so incessantly whenever she came off to feed that I removed him to another aviary. With the failure of the first batch of eggs there was nothing for it but to return him in the hope that solitude had improved his temper. If anything, however, it had made him worse: directly he got over the fright of his transfer he was after the Sula Island for all he was worth, driving her up and down the aviary with open beak and torrents of his choicest Billingsgate; I could have wrung his neck! In desperation I resolved to apply to him the final discipline reserved for hopelessly savage cocks. I told the aviary attendant to catch him and cut his wing, not enough to stop him from flying altogether, but sufficiently to restrict his capers pretty severely. He was exceedingly annoyed at the indignity to which he had been subjected, and for some days sulked inside the aviary shelter, swearing at the Sula Island when she approached him. However, it turned out eventually that the punishment had done him a world of good. In a few weeks' time he was quite a reformed character and on excellent terms with his companion whom I had provided with a piece of natural tree trunk for her next attempt. It was not an ideal nest, having no bottom and being little more than 2 ft. 6 in. high, but it was the best I could get hold of. I placed it in a sheltered corner of the aviary flight and put plenty of mould and decayed wood in the interior. The Sula Island laid three eggs which hatched a few days before I left.

in May. Shortly before I lost a brood of young Crimson-wings very similar but rather more draughty log and my hopes of the hybrid nest were at a very low ebb and were not raised by what little I could see of the young ones when I got the chance of a peep with the aid of an electric torch. Young Parrakeets when in good health usually sit very upright and very close together with their funny little "arms" and each others' necks and their heads wobbling over each others' shoulders. But as far as I could see only one young hybrid was moving, that feebly, and the biggest lay very still and appeared to be dead. I went away with a heavy heart, daily expecting to hear that X, the spirit who appears to take a special delight in frustrating the hopes of aviculturists, had done in one or all of my greatest treasures of the season—the hybrids, a Lutino Ringneck and a nest of Malabars. I made no mistake with the Lutino and duly destroyed the lovely golden bird I had toiled for twelve years to produce, a few days after I left the nest, but for some reason the bad news of the hybrids never came. The result was that when I got back in August I found sitting on the perches three as sturdy and handsome young birds as one could wish to see. They are not unlike rather slender young Common Kings, but all their colours are much more brilliant; indeed, I have never seen any Parrakeets in first plumage with such rich tints, and if they are to be three years old they should be gorgeous birds, indeed. Their heads, necks, wings, mantles, and breasts are green, the tint on the breast being slightly paler. The upper part of the rump is brilliant blue and the belly is very rich, dark crimson, streaks of the same colours running upwards towards the breast and mingling with the green of the caudal feathers. The cock has a few red feathers on the crown. The tail feathers are green above and black below with pinkish-yellow tips. The beaks of the young birds are of a pinkish colour, becoming darker towards the tip of both mandibles. Eyes large and very black. The Sula Island, encouraged by her success, went to nest a second time and now (September 13th) has another young one about half grown. The newly-hatched young were covered with long white down.

It seems a great pity that the wonderful Aprosmictine Parrakeets, the sexes of which are coloured alike, should remain practically unknown

to aviculture, for, judging from my Sula Island, they are both hardy and prolific. She has never had a day's illness since her arrival here, never, after her first winter, any artificial heat, and she must have laid nearly thirty eggs.

THE BREEDING OF THE LEPURANA BUSTARD-QUAIL (*TURNIX LEPURANA*)

By H. L. SICH

Of the very few of the twenty-odd species of *Turnix* which I have been able to pick up nearly all have been hens.

As far as observation has gone they all appear to have similar habits, which have been described before. I have never had more than three eggs in a clutch and sometimes only two, with paired birds as well as odd hens, although I have heard of four chicks having been hatched and reared. It is impossible to say how many clutches are laid by one hen in a season in nature. My two species, both paired, this year have laid one five clutches, the other four, and the latter is booming again now.

Lepurana is, according to Ogilvie-Grant, a sub-species of *sylvatica* differing only in being smaller, and having a more southern range in Africa. But his description of the latter does not quite describe the pattern of my *lepurana*.

I can see no difference in the two sexes except size, and that the breast of the hen is a little brighter yellow. The upper parts are mottled and streaked with two shades of brown. The throat, breast, and under parts are yellowish buff, a streak down the middle of the head, the sides of the neck and sides of the breast are very nearly white ground colour but each feather has a black centre, giving a scaled appearance. The bill, which is rather long, is lead coloured, the toes and tarsus yellowish white. The black of the eye is surrounded by pale yellow, which gives the birds a very scared look.

Having got two *tanki* hens last year and failing to find a cock anywhere I offered another bird in exchange for a *Turnix* which I saw in the Small Bird-house at the Zoological Gardens, and thought that

been told that it was a cock. My offer was kindly accepted. Not long after the bird was in my aviary it started booming, then I knew it was a hen. Only then did I inquire its name and found it was *lepurana*. I could see from the first that it was too different from my *tanki* to be a cock *tanki*, but it was better than nothing.

In the autumn some more *lepurana* were advertised. The first lot which I bought were all dead in two days. I was just in time to save a cock of the second lot. A hen Chinese Painted Quail had taken a liking to them, being, I suppose, too much like herself in colour, and hunted them round the shelter in which all the birds were shut in for the winter.

Having caught up the remaining cock and the old hen for safety she had not been attacked, being there before the Quail had arrived—I put them in a small run 7 by 4 feet in the shelter of the other division. By 11th April she had laid three eggs behind a board. These I removed besides three more laid by 23rd April as there was no live hen for the chicks, even if the cock had hatched them, and there was nowhere to put the hen if I had removed her. On 30th April they were put out into the flight. On 4th June I discovered that what appeared to be a handful of hay tumbled out of a privet bush was the dome of the nest: being placed in short grass it was more elaborate than usual, and looked much like a large nest of the Quail Finch. It contained three eggs, a third being laid about midday and the cock began to incubate soon after. The eggs are about 11 lines by 9 lines of a white ground heavily mottled with dark olive brown and much smaller patches of pale brown and lavender grey.

By 7.30 a.m., 18th June, all three eggs were hatched. Going in to feed some Quail chicks, the cock ran off the nest and the chicks tried to follow. I collected them and put them back. When I went again at 9.30 the nest was empty and the egg-shells which were there before were gone; the nest was never used again. Did the cock eat them to get rid of all traces? I never expected these eggs to hatch. The cock was always off the nest when I came in the morning, and came off regularly at about 6 p.m. for what seemed in my anxiety to be about half an hour. Besides that about every quarter of an hour all day long he would leave the eggs for five or ten minutes to feed or have a dust

bath. I could see the nest a good way off from the outside of the aviary so his coming off was not due to fear of me. He sat more closely last few days, which raised my hopes. What summer weather we had this year was over by the middle of June. The three chicks were still alive on the 19th, after a soaking wet and stormy night, but the 22nd after a similar night there were only two left. I caught the cock and these two and placed them in a small run in the passage about 6 by 3 feet and had no more trouble, feeding them on locusts' eggs and gentles. I had to cover half the run over with roof felt to keep them moderately dry; that and the drenching weather made observation rather difficult. I noticed that even when quite young when the sun shone the chicks would sit together apart from the cock. At first they were dusky white with two darker stripes down the back and the whole of the eye appeared black. At six days the wing quills were visible. At about ten days old they began to pick up food off the ground. By 3rd July at fifteen days old the body was covered with feathers and a little tail was showing; the head was still covered with down. On the 5th I first noticed that the iris had become pale. On the 17th they were about two-thirds the size of the cock and coloured much the same but very much whiter looking and with only a little yellow on the under parts. I put them in a run by themselves inside, where they have been ever since. They are now, 1st September, the size of the cock and coloured like him except the breast which only shows a tinge of yellow. As they are both the same size they are probably both the same sex and I expect cocks. The hen has laid twice since, once in a small run where the cock refused to sit, and once in the aviary where he hatched out on 16th August, but I could not find even the cock bird and in a week he appeared alone, so the wet weather and scarcity of food, which I could only scatter broadcast, which the other birds ate, killed them. My other species, *nigricollis*, hatched out from two eggs early in May, but on an isolated wet day and only lived a few hours. They have nested since but the eggs did not hatch. The young chicks were a few shades darker than *lepurana* but just the same pattern and size.

SOME BIRD NOTES FROM TENERIFE

By G. H. GURNEY, F.Z.S.

To the Naturalist, whether he be ornithologist, botanist, or entomologist, no group of islands present a more fascinating and interesting for his particular hobby than the Canary Island Archipelago. Various species peculiar to the islands, or in several cases to one particular island, offer problems of surpassing interest, and added to the magnificent climate which one nearly always enjoys there renders any stay on any one of the islands one of peculiar enjoyment. I spent the greater part of February and March this year at Puerto Orotava on the coast of Tenerife, and no better centre could be found from which to work the birds which are found on that island. Puerto Orotava is situated on the west coast of Tenerife, the largest island of the group, and is reached by a drive through splendid scenery of 30 miles from Santa Cruz, the principal town and port of the island. The island of Tenerife roughly covers an area of over 900 square miles, and is 50 miles long by 32 miles broad. A long unbroken range of mountains running lengthwise from Esperanza to Guia, forms, as it were, the backbone of the island, and culminates in the well-known peak, the Pico de Teide, which reaches a height of 12,180 feet. The sides of this long ridge of mountains are deeply cut by barrancos (ravines) which run down on either side, some of them of very large size. The entire surface of the island is composed of basaltic rocks, lava, cinders, and scorriæ, though on the fertile Laguna plateau there is a fine rich mould. Owing to the moisture which renders the island far less arid than some others of the group; indeed, many of the barrancos are most luxuriant with brilliant almost tropical vegetation, and it is only in the extreme south of the island where typical African desert conditions exist that sandy, stony tracts of desert country are to be found, and it is on these desert-like plains that some of the most interesting insular birds are to be found.

The extremely picturesque town of Orotava is situated 1,500 feet above the sea, overshadowed by the snow-capped Peak of Tenerife; Puerto, where I stayed, is 3 miles lower down, at sea-level. The country all round is now largely devoted to the cultivation of the banana, and a great deal of what was formerly good country for birds

has gone for ever. The banana plantations extend for miles all round Orotava, and stretch up to some 2,000 feet, where one gets into the region of the chestnut and laurel forests.

There has been in the past considerable differences of opinion among scientists as to the origin of the Canarian Archipelago, and various theories have been put forward: (1) that they are merely of volcanic origin; (2) that they were originally joined to the mainland of Africa; (3) that they are the remaining peaks of the submerged fabled continent of Atlantis; but it is now, I think, generally agreed that they were formed by volcanic action in the late Tertiary period. The Archipelago is made up of some twelve islands, forming an eastern group and a western group. The eastern islands are mainly composed of arid, stony deserts and extinct volcanoes, with a very scanty vegetation. The two large islands of the western group, viz., Gran Canaria and Tenerife, are also purely of volcanic origin, but on them water is fairly abundant, and consequently vegetation is much more luxuriant. The whole of the island of Tenerife can be divided up into very distinct zones of vegetation, which bear a marked influence on the distribution of the birds. These zones may be differentiated as follows:—

(1) *The Maritime Zone*, which extends from sea-level to 1,000 feet and includes the desert-like plains. This zone is characterized by semi-desert flora, where such arid-loving species as *Opuntia* and the wonderful Tree Euphorbias flourish, and is the habitat of such interesting birds as the Courser and the Trumpeter Bullfinch.

(2) *The Monte Verde* or Zone of Cultivation, including the remainder of the chestnut and laurel forests, between 1,000 and 3,000 feet. The vegetation, whether indigenous or introduced, is of the utmost luxuriance: vines, oranges, loquats, and bananas all thrive, and the flowers of every description clothe the sides of the barrancos, while the gardens of the villas and houses are more like outdoor conservatories than anything else, with an extreme wealth of magnificent plants and shrubs; the brilliant yellow and scarlet *Bignonia venusta*, red and purple *Bougainvilleas* climb in profusion over roofs and balconies; flaunting crimson *Hibiscus* grow side by side with *Daturas* with their enormous white trumpet-like flowers, while the beautiful blue *Thurbergia grandiflora* climbs over the dracænas and palms, all making a picture of surpassing loveliness. Special birds peculiar to this zone

the Superb Redbreast, Spectacled Warbler, and till the destruction of the laurel forests, the wonderful Pigeon, *Columba bollei*.

(3) *The Pine Forest Zone*, 3,000–4,000 feet, and the habitat of one of the most remarkable of Tenerife birds, the Teydean Blue Chaffinch, about which more will be said later on.

(4) *The Cumbres*, or high mountain zone, extending from 4,000 to 6,000 feet; vegetation here is very poor, though the characteristic plant Escobon (*Cytisus prolifer*) grows freely. Large tracts of the more rocky parts of the island (Zone 1) are given over to the Prickly Pear of two species, viz. *Opuntia coccinellifera* and *O. dillenii*, the former, which in the past was largely cultivated, is the food-plant of the cochineal bug, which previously was bred by the inhabitants for the sake of the well-known dye; this industry was killed, however, in the Canary Islands by the discovery of aniline dyes in 1878. However, it was told that recently an effort has been made to restart the cochineal industry in Gran Canaria, principally because it is an industry which requires very little heavy labour, and in consequence suits the temperament of the indolent Canarian peasants.

The larger Birds of Prey are very common in Tenerife: Buzzards and Kites may be seen at any time, and are remarkably tame, though they do not haunt the vicinity of the towns in the way they did twenty years ago. The Egyptian Vulture is also an abundant species, but keeps to the more mountainous parts of the island. It is a fine sight to see three or four of these large Vultures wheeling over one's head, the black and white plumage of the adults standing out finely against the brilliant blue sky. Occasionally I saw them being mobbed by Buzzards, which in their turn were mobbed by Ravens. The little Canarian Kestrel (*Falco tinnunculus canariensis*), which is a resident sub-species, is extraordinarily abundant and breeding in the barrancos; they are absurdly tame, and would sit on a small tree, or on the top of a wall by the roadside, and hardly bother to fly away as one passed. I think they feed almost entirely on the Lizards which swarm everywhere. A few years ago the Osprey was a comparatively common bird, and lived in the cliffs quite close to Orotava; I was disappointed not to see it at all.

(To be continued.)

THE UNSUCCESSFUL NESTING OF THE SENEGAL TOURACOU (*TURACUS PERSA*)

By CAPT. H. S. STOKES

Two years ago I related in these pages how a single Senegal Touraco had surprised us by laying a clutch of eggs.

There followed the difficult search for a cock, rather like looking for a needle in a haystack, for Senegal Touracous are very few and far between. However, through the kindness of friends we succeeded in getting a beauty, and the two birds were duly put together. The hen went for him like a tigress, and they had to be separated. They were kept in separate aviaries, but within sight of each other throughout the winter, and on Whit-Monday, 1926, were put together, both in a fresh aviary. They at once began to feed and kiss and make charming crooning noises, and soon started a nest in some ivy outdoors, about 5 ft. from the ground. A clutch of two eggs was laid and the birds sat steadily in June but the eggs proved to be clear.

We had been warned by the previous experience of Mr. Delacour of the exuberance of the cock, who would certainly kill the first brood of young, but we did not remove him as he regularly took his turn of the eggs by day, after the manner of pigeons, and being also rather lame with rheumatism was not addicted to wife-beating. A second clutch of eggs was laid on the same nest in August, 1926, and one egg hatched about 9th September.

On this date I went abroad, as I have learnt to do when any special precious birds are breeding. Letters from my aviary girl report the good progress of the baby, upon whom she lavished endless care and thought and trouble, and on my return on 10th October I was shown the young with great and justifiable pride. It was not yet out of the nest, about half grown, and about the size of a pigeon, and covered with black down. It was about six o'clock in the evening and just getting dark, when pleased to be home and elated at the birth into the world of another Senegal Touracou, I stood outside the aviary and talked to the mother, who is attached to me and will feed from my hand. She came to the wires for a grape, and the cock joined her and both became very excited and began to crow. Alas, it was the death

all of the poor little one: in their excitement they left it that night its fate, and in the morning it was dead. I learnt my lesson, and never more to pet them.

This spring about April the hen showed signs of wishing to lay, we made every effort to induce her to do so indoors. Boxes and nets were put up, and heather and dead damson branches strewn out, but she would have none of them. Back she went to the old nest, and though the nest of last year had been demolished and we had put fresh heather up for her, it was all pulled out and the nest built entirely of branches broken off a small tree in the aviary by the birds.

One egg only was laid, and after two days it disappeared. One more was then laid after a fortnight, and I caught the cock red-handed taking it. Another egg was laid in July—observe that the clutch was invariably only of one egg this year as against the normal two in 1926—but this time both birds sat splendidly. The hen would come off every morning about nine for breakfast and a bath, the cock taking her place till six in the evening. We were very careful to keep them quiet and to make no fuss of them. Indeed, I again removed myself from the temptation of meddling by going to London.

About the twenty-first day of incubation—I think the full period was twenty-four days—we began an extra feed of banana and bread and milk. On my return home I was horrified to find both birds flying about and my bird girl almost in tears. Fragments of egg, evidently a fresh one, had been found beneath the nest on the very day they should have hatched.

For the second year, therefore, we are cheated of success and robbed of the great joy of rearing so beautiful and delightful a bird, so rare too in English aviaries.

No praise is too high for the Senegal Touracou. It is steady and reliable and most beautiful in its dress of green and purple, with carmine on the wing. The sexes are by no means easy to distinguish apart, but the cock is slimmer and longer than the hen, his green crest tipped with purple, and a broader streak of white below the eye than she possesses.

These birds lay very large and almost round eggs, and on more than

one occasion the hen was so ill with the effort that she could scarcely reach the nest to lay. However, she allowed herself to be placed on the nest and would feed from the hand on banana rolled in olive oil. She would also let my bird girl take the egg from beneath her to examine it. They have now stopped breeding operations for this year as the nights are getting cold. Next year if both birds are still with us we shall consider removing the cock directly the eggs are laid, but I am by no means certain how this will answer in the case of birds of which both sexes share the task of incubation.

Mr. Delacour was successful in breeding the species in France before his aviaries were destroyed in the war, but it has not been bred in England, no doubt owing to the great difficulty of obtaining pairs.

AVICULTURAL NOTES

By THE EDITOR

Mr. Webb returned home from Costa Rica on 21st August, with a number of Humming Birds, which he had collected for Mr. Spedding Lewis. Mr. Lewis most generously presented seventeen of these to the Zoological Society, and as they required special lighting and heating arrangements, special cages were arranged for them in the Insect House. There are at least five different species, namely *Phaethornis longirostris*, *Campylopterus hemileucurus*, *Thalurania colombica*, *Amazilia dubusi*, and *Elvira chionura*.

Humming Birds will live for a time upon syrup only, but a certain quantity of insect food would seem to be necessary for most species at any rate. There is a very small white fly which is extremely numerous on the underside of the leaves of some marrow plants in my garden. It is a regular blight, and appears to be responsible for a very poor crop of vegetable marrows. But the Humming Birds love these tiny insects which they capture on the wing in a very dexterous manner.

A pair of very beautiful Conures arrived in a recent collection made by Mr. Chapman's representative in Central Brazil, and were purchased by the Zoological Society. They belong to the species known as *Pyrrhura rhodogaster* of Sclater—the Crimson-breasted Conure, which

represented in the Natural History Museum by Mr. Sclater's type-specimen only. It is slightly larger than the White-eared Conure, and in many respects resembles that species, but its chief distinguishing feature is its bright crimson lower breast and abdomen.

Mr. Frost has returned to England after an absence of three years, and has brought with him a very fine collection, including several birds new to aviculture. The Raja Lory (*Chalcopsittacus insignis*) somewhat resembles the Black Lory, but is clothed in delicate shades of purple, bronze, and red. Rosenberg's Lorikeet (*Trichoglossus rosenbergi*) is one of the most beautiful of its genus. The Javan Kingfisher (*Halcyon univentrifera*), the New Guinea Kingfisher (*Sauromarptis gaudichaudi*), and the very interesting Malayan Falconet (*Microhierax fringillarius*) appear to be the first of their kinds to be imported.

The collection includes thirty-three Birds of Paradise, belonging to six species, no less than nine Great Black Cockatoos (*Microglossus*), twenty Lories of various species, twenty-four Fairy Blue Birds, seven Blue-tailed Pittas, forty Crowned Pigeons of three species, two Cassin's Pigeons, twelve Egrets, and so on; a really remarkable collection. These are temporarily housed at the Zoological Gardens, and those who wish for rarities should communicate with Mr. Frost, c/o the Zoological Society of London.

The question is often asked as to what is the best method of catching birds from an aviary. For my own part I dislike nets in any shape or form, though they are necessary in certain cases. A catching cage of some form is much to be preferred. The birds are fed into this, and a door is operated with a string. A combined feeding tray and cage can be devised so that it is always available for catching any bird when it visits the food-tray. This would be a rather large cage with a large door at either end, which would be left open normally, but when a bird is wanted, one door would be shut and the other worked with a string. These must be used for some kinds of large birds, and these should be of large size, the shape of a butterfly net with a strong cane or wooden top and a light deep string net of half inch or one inch mesh netting.

REVIEW

CAGE BIRD HYBRIDS¹

Those who are interested in the breeding of Canary mules and hybrids between the various species of British Finches, will be glad to possess the new edition of Mr. Houlton's book edited by Mr. C. A. Houlton, both author and editor being experts in hybrid breeding.

While the breeding of Canary mules does not quite come within the scope of our journal, we may well consider the production of hybrids between two British species, such as the author deals with. Some of these are extremely beautiful, as well as interesting, and the list of those that have been produced is quite a formidable one, the most remarkable being perhaps that between the Chaffinch and Brambling finch. Many have claimed to have crossed the Canary with the Chaffinch or with the Yellow-hammer, but no *bona fide* specimen of either of these has been produced.

CORRESPONDENCE

THE NESTING OF THE ORANGE WEAVER

SIR,—About the middle of July my Orange Weaver had completed a nest suspended to the outside twigs of a holly bush. I thought it worth photographing. As the entrance faced the interior I was going to remove a bundle of hay, of which the nest was entirely made, from the middle of the bush, when the hen flew out. On 18th August I saw the hen hunting round for insects, so I wrote for some mealworms. In the meantime I beat the garden bushes for insects which were very few and mostly plant bugs. One young bird left the nest on 23rd August. It was well feathered, but had no tail, and seemed quite bare under the throat, otherwise it was a paler edition of the hen and showed a slight yellowish streak above the eye.

Now, 1st September, it is darker than it was and has a tail; it is still being fed by the hen. What the hen found to feed the nestlings on in the earlier stages among a host of other birds puzzles me. Now the cock has entirely picked the nest to pieces, which felt quite clean inside when the bird had flown.

H. L. SICH.

¹ Published by *Cage Birds*, Link House, Fetter Lane, E.C. 4, price 10s. 6d. net.

YELLOW-RUMPED PARRAKEET NESTING TWICE DURING THE SAME SEASON

SIR,—It may be worth recording that my breeding pair of *Platycercus neolus*, after rearing a fine brood of five young birds, laid again and hatched two more, which unfortunately died when a few days old owing probably to the unsuitability of the nest.

I have always found the Yellow-rump's very near relative, the Adelaide Parrakeet, to be single-brooded, even at liberty, whereas the Pennant, like most of the other *Platycercus* (including apparently the Yellow-rump) is normally double-brooded under favourable conditions.

TAVISTOCK.

FOOD OF CROSSBILLS

SIR,—Observations on the food of a species when wild are sometimes of value to aviculturists because, as remarked by E. G. B. Meade-Waldo, F.Z.S., of Kent, "The sciences of ornithology and aviculture are intimately connected. Each has much to learn from the other" (AVIC. MAG. Vol. 1921, p. 34, beginning of article). Therefore it may be of use to some member to state that on 5th August a bird was brought to me (which had been accidentally shot in mistake for a common species) and which I recognized as a Crossbill, evidently a this year's bird, breast with dark streaks; and on going round to the land where the bird was seen I found four Crossbills feeding on the leading-shoots of fruit-trees, plum and apple (while the peculiar voices of two others, presumably parents, were heard quite close).

Up to that morning I thought the food of Crossbills consisted *only* of vegetarian matter such as seeds of various fir-trees, mountain ash, hlder, hawthorn, etc., but these four birds were *obviously clearing off and eating greenfly* from the leaves of the fruit-trees, and during the time the owner of the land, Mr. Percy Dennis, and myself watched them, for about half an hour they systematically "worked over" the top shoots of young trees, holding the head sideways, almost flat, against the leaf in doing so, and using beaks to pull themselves up the boughs. With mandibles not meeting at the tips I should have thought that eating aphides would have been very difficult for Crossbills, but these

four evidently *accomplished the feat quite easily* judging from the way they climbed Parrot-like all up one twig after another! There was *no sign* of them interfering with the fruit, plums or apples. All were very tame, one reddish on breast apparently a young male, and presumably hatched in North Kent; and Mr. Dennis informed me on 15th August that the birds were still feeding chiefly along the tops of trees as stated above.

Aviculturists may find such food useful for any young birds hatched out in future years.

FREDERICK D. WELCH

[There has been a large immigration of Crossbills to these islands during the past summer, and they have been recorded from many parts. We noted a number feeding upon thistle seed in South Devonshire, but their usual food is the seeds of various firs.—ED.]

BREEDING ROSY-FACED LOVEBIRDS

SIR,—I note with interest in the August number of our Magazine the article on the Rosy-faced or Peach-faced Lovebird, and as my experience at present with this species is almost wholly at variance with what is there recorded, I appear to be in possession of an exceptional pair. They are housed in a cage of which the inside measurements are 22 in. high, 18 in. wide, and 10 in. deep. I had no idea of them going to nest in a space so limited. They were provided with a husk in which to sleep, and after a time I noticed the hen got a little rough in plumage. I blamed the husk and had it removed. One morning, on attending to their wants, I noticed the cock would not move from the bottom of the cage. His gaze was transfixed on something in which he appeared to take great interest. On close examination I discovered that the object of his infatuation was an egg. I took the hint, returned the husk, and with the aid of a teaspoon deposited the egg therein. Along with that egg disappeared the cockbird. For weeks he was rarely seen. I got anxious as to whether he was being fed, and thought also that perhaps he was wasting time and strength on one egg. Suspense prompted action. After some difficulty he was induced to leave the husk, which was found to contain

on eggs and a chick which appeared to be newly hatched crawling
them. Of this clutch six hatched ; one did not, and the other
disappeared. Of the six that hatched three appeared not to have
fed at all ; the other three are now in perfect health and plumage,
better than their parents, and fortunately able to do for themselves.
The parents have again gone to nest, and would not tolerate the presence
of their offsprings. First the cock showed his resentment, and a few
days later the hen stopped feeding them and also became aggressive,
and they were separated.

The colour of the foreheads of the young reminds one of the head
of the hen Blossom-head, or a sort of dove grey : the throat and breast
paler shades of those of the adult, but the beautiful blue of the
throat is quite as deep, and the tail when spread shows all the beautiful
tints of the mature specimen. The striking difference is the
colour of the upper mandible : the upper two-thirds appearing to the
eye to be black, but closely examined would, I think, be found to be
a very dark brown. This is gradually disappearing from the point
towards the cere.

The eggs are white, large for the size of the bird, and *round* rather
than pointed.

One of the drawbacks mentioned in the article to *A. roseicollis*
does not apply to my parent birds. They never screech, or give vent
to ear-piercing sounds, but their progeny take turns at drowning each
other down. I thought this contrast to their parents would prove a
striking phase, and due to the exuberance of youth.

As they have not with me had an opportunity of displaying temper
towards their own or other species, I cannot express an opinion as to
their disposition in this respect. But to each other as a pair they are
true birds indeed.

The necessity of removing the young at the succeeding periods of
moulting of parent birds apply to so many different species as to
prevent *A. roseicollis* from being on that account considered spiteful.
The hay or rye grass supplied as part of their dietary was conveyed
to the cock, after being securely fixed in the lower back feathers, to the
back and used as a lining. It was interesting and amusing to watch
his performance. He would fix about a dozen grasses, and then pass

in through the narrow aperture without shedding one. This appeared to me as no mean feat.

Incubation, unfortunately, commences when the first egg is deposited, consequently "hatching out" may extend over a week and prove calamitous to the younger members of the brood.

The cock, *and the cock bird alone*, incubates, and will not allow the hen to enter the nest when he comes off to drink. Time after time again, under this circumstance, I have seen the hen move up towards the nest. He would emit a short, sharp command, which judging from her action in response clearly meant "stop" and stop she always obeys. During incubation the hen carries the food to her mate in the nest. After the young are hatched she feeds him on the perch, and when the young leave the nest both parents feed the young.

Their food consisted of canary, white and Indian millet, and a little sunflower. Nuts and all fruits they ignore. Hay tops I have already mentioned.

When the weather is propitious their cage is taken into the garden. This procedure appears not to disturb in the least the serenity of the cock bird, who sits tight through it all, while the hen is making the most of the fresh air.

Beyond the size of the cage, I presume there is nothing remarkable in this case, but it proves that however limited the accommodation offered, *A. roseicollis* will increase and multiply.

The cock is now, 29th August, sitting on four eggs.

ALF. S. NICHOLSON.

[We should be glad of the opinion of others who have bred *Agapornis roseicollis* as to the alleged incubation by the cock bird, and would suggest to Mr. Nicholson that he may possibly be mistaken in supposing the sitting bird to be the cock. If he is correct then he has made a very interesting discovery.—ED.]

GREY SINGING FINCH AND CANARY HYBRID

SIR,—If a cross between a cock African Grey Singing Finch and a hen Canary is unique, or even sufficiently unusual to be of interest for record in the AVICULTURAL MAGAZINE, I may state that I found two

part little birds of that parentage in my aviary lately. Larger than the father, smaller than the mother, and markings something like a hen sparrow. Unfortunately one was killed by a stoat the next day, the other lives and thrives.

E. A. H. HARTLEY.

HYBRID BLACK-HEADED (BRAZILIAN) SISKIN ♂ AND
CANARY ♀.

SIR,—In the autumn of 1925 I obtained from a local dealer, who was unaware of their identity, two cock Black-headed Siskins (*Chrysomitris icterica*).

They were not in the best of condition, but soon improved in health and appearance after being turned into a large flight cage and given only plain canary and teasel seed, which latter had been previously soaked for ten minutes in boiling water. This was given to the birds in a damp state, not hot of course. It was amazing to note the improvement it effected, and they soon began to sing. As a matter of fact, this species is quite a fine songster, and in my opinion is superior to the Goldfinch or Brown Linnet, or as far as I know any other small Finch. In the following spring they became more vocal and used singing incessantly, one against the other, with lowered wings, showing off the beautiful golden yellow of the wing feathers.

I tried in vain to secure hens of their own race for that season (1926), and both ultimately spent a bachelor existence in an aviary with other finches. It seems there are very few hens imported. Those aviculturists who have this species have only cocks. I saw two fine birds at Mr. Ezra's in May.

This year I introduced a hen yellow Canary to one of the cocks. In June she went to nest and laid one egg, which was clear. Then she laid three more and two young were hatched on 17th July. Fourteen days later the elder left the nest. The general colouring was yellowish brown with darker markings on the back, and lighter under parts—typical young bird colouring—resembling a young Brown Linnet but rather a yellower tint. The second was similarly coloured but had more yellow in the wings and tail, “variegated” I believe is the Canary breeder's term.

I should be interested to hear if this hybrid has been bred before. I know the Hooded Siskin has been crossed with the Canary and I believe the Sikkim Siskin too. The hen Canary is sitting on four more eggs and the young are now independent of their parents.

B. HAMILTON SCOTT.

MASKED LOVEBIRDS

SIR,—I think perhaps the following incident might possibly be of interest to aviculturists with regard to the hardiness of the beautiful Masked Lovebird (*A. personata*). I recently bought a pair of these fascinating Lovebirds from Miss Chapman, of Birmingham. I did not think they were sufficiently acclimatized to put outside altogether as the weather just then was anything but good! However, I wanted to put them in an outdoor aviary as soon as possible for breeding purposes, hoping to get them to go to nest before too late this year. I decided, therefore, in order to accustom them to our changeable climate to put them out in the garden for a little each day, just as they were, in the wire cage in which I bought them. After a few days, as the weather seemed suitable, I decided to harden them off a little more by leaving them out until after dinner. This particular evening about 8.30 p.m. I went out to fetch my birds in, when to my horror an open door and an empty cage greeted me! They had somehow managed to open the door with their beaks! A pair of Black-cheeked Lovebirds of mine did this in the early spring but fortunately in that case escaped into a room. This door, however, seemed too secure for it to be possible. Feeling utterly helpless and scarcely daring to breathe even, I called to them. As they already seemed to know me a little, I hoped by this means to keep them in the garden for the moment! The smaller one answered at once from a tree just over the cage. He was perching on a coconut husk, which I had hung up for wild birds to nest in, and was apparently studying the accommodation therein! However, the next minute the larger one called from the very top of a fir-tree close by, and the smaller one flew to it immediately, while I stood with bated breath waiting for their next move. Needless to say they had a perfectly glorious time flying from tree to tree, and to my joy always within sight! One bird flew once to the very tip of a poplar-tree quite

hundred yards away from the cage, and I never thought to see it
back again. However, he returned, and so on, until too dark to watch
any more. Eventually they both went to roost in the fir-tree close to
their cage—which I had not moved, of course—and there I had to leave
them for the night. I think, of the three, I spent the most miserable
time! We have a great many owls here, and I felt sure they would
never survive for this reason, even if they managed to stand the cold
and dampness of the night air. The next morning I was awake at
7.30 a.m.! From then onwards I watched from a window overlooking
the garden for any sign of my Lovebirds. I did not see or hear either
of them until about 7.30, although the wild birds had been awake for
a long time. My birds did not believe in rising too early apparently!
Suddenly the smaller one flew down from the fir-tree on to the top
of their cage, and struggled unsuccessfully for several minutes to pull
millet spray through the bars. At last giving up the struggle he
actually went inside the cage, and so was soon captured. The other
one followed suit soon afterwards, much to my joy. Neither of them
were any the worse for their adventure in spite of a very thick mist
in the early morning and a very cold night. This, I think, proves
that the Masked Lovebird is not at any rate delicate, also that they
show a certain amount of intelligence, and would, I believe, become very
tame. They fly very swiftly, and are a truly beautiful sight to watch,
even so, I hope never to see mine at large again! All the same,
it does make one feel rather sad, of course, to see them shut up, after
one has seen them at liberty! This incident happened about a fortnight
ago, when the evenings were lighter. I venture to send it to you
in case you might consider it to be of any interest.

IRENE M. MARRIOTT.

COLOUR-BREEDING IN BUDGERIGARS

SIR,—Your suggestion that Budgerigar breeders, particularly those
of Cobalts and Mauves, should give some of their experiences, prompts
me to send a few notes.

To the experimental breeder it is not always the striking varieties
which prove to be the most valuable in colour breeding. The Olive, for
example, is not to some a very attractive colour, yet there is no doubt

that it has so far proved to be the most useful. In the same way the Mauve, which is probably, as you say in your article, "less striking than the Cobalt (although many prefer it to all others), may prove also to be of immense value. As yet this colour is hardly a true "mauve. It should contain more pink in its composition. Improvement, however, is being made all the time, and already birds bred this season from crosses with the Mauves which Mr. Roland Green painted for our coloured plate are better in this respect. It is the ambition of many breeders to go still further in this direction and produce a pure Pink. This I believe to be quite possible, but it will be some time before it is attained, although many secretive and admittedly speculative crosses are being tried!

One variety that I hope soon to establish is the Silver-Grey. Some crosses produce a beautiful French grey colour, but only those with grey face-spots are likely to moult out true Greys, those having dark spots moulting into light Mauves.

Apart from their attractiveness, two most valuable varieties would be the Cinnamon and the Brown or Bronze. From experiments already being made these are apparently well on the way. Their value for colour crossing would, of course, be inestimable.

H. TOD-BOYD.

NESTING BOXES FOR PARRAKEETS

SIR,—I should like to supplement my article on Parrakeet nesting sites by a further short note. I find that moisture is apt to be another factor essential to the healthy development of the young. If the nest gets too dry, even though it consists of a natural tree trunk filled with mould and set up in the open flight, rickets are still liable to appear. It is therefore desirable to place the tree trunk under the open sky where the rain will fall on it and not to attempt to give it the protection of any kind of overhead shelter.

TAVISTOCK.

USE OF NESTING MATERIAL BY ROSEATE COCKATOOS

SIR,—Few members of the Parrot family are of much account as nest builders; least of all the Cockatoos. I was under the impression that all Cockatoos laid their eggs on the bare wood or mould at the

bottom of their tree hollow, with at most an accidental bed of chips lined by their biting off the entrance and sides of the cavity. I was before surprised when this year my breeding pair of Roseates cut shavings of wood from the perches, carried them into their barrel, and by turning them round the bottom made quite a presentable attempt at a nest.

TAVISTOCK.

YOUNG PARRAKEETS RE-ENTERING THE NEST TO SLEEP

SIR,—It is unusual for young Parrakeets, as distinct from Lorikeets, Lories, etc., to re-enter the nest once they have flown. It is somewhat curious therefore that this year a young Barraband and also a young Malabar Parrakeet did so for some days. The Barraband was a single bird, but the Malabar is one of three. None of the Barraband's brothers and sisters of former years have ever gone back to their nest after leaving nor have the other two members of the Malabar brood attempted to follow the example of the third. It appears to be only another instance of the remarkable amount of variation in individual conduct observable among the more intelligent birds.

TAVISTOCK.

HONEY-GUIDES

SIR,—In regard to Mrs. Prestwich's letter respecting the nesting habits of the Honey-guides, I must confess that from personal experience I know nothing whatever. The nesting habits of all parasitical birds are very difficult indeed to study, the Honey-guides especially, because these birds inhabit the "bush" district of Africa and roam about in places comprising hundreds of square miles of thick bushland, they are also very hard to find, being shy and retiring birds unless engaged in the pursuit of bees' nests, when they elicit the aid of human beings. And again they only lay their eggs in the nest of birds which breed in deep cavities in trees such as Wood Hoopoes, Glossy Starlings, etc.

I could never glean any facts from the Europeans out there, for their apathy towards bird-life is appalling. Very few people in Africa know the correct name of any single bird; true they know the difference between a Parrot and an Eagle, or between those useful for the "pot"

and the remainder which prove useful as living targets for shoot practice.

I might mention in passing that the skin of the Honey-guides is extremely thick and tough and resembles leather, which is no doubt a protection against the stings of bees and wasps. These birds also co-operate with the Ratel, a honey-eating Badger which lives in Africa.

The Honey-guides have an extremely gentle expression which is no doubt caused by the beautifully coloured brown eyes and the perfectly shaped head. In weight they are heavier than any other bird I know in proportion to their size.

There is a very fine plate of two species of Honey-guides in Kueleman in *Ornithological Miscellany*.

SYDNEY PORTER.

THE AUSTRALIAN "GIN-GIN"

SIR,—Reading through the back volumes of the AVICULTURAL MAGAZINE I noticed the following:—

"On going to press we have received from Mr. George Carrick a cutting from the *Glasgow Evening News* of 27th April relating to the sale of Bostock's Menagerie. The most extraordinary bidding took place when 'The Australian Gin-Gin bird, a small bird of the Parrot kind' was put up. The bidding commenced at 10 guineas, and the bird was knocked down for 260 guineas. This bird was said to whistle many tunes. Can any member enlighten us as to the proper name of the 'Gin-Gin' bird?" (AVICULTURAL MAGAZINE, 1909, p. 214).

Apparently no member could, as the query remained unanswered. Can any reader solve the problem now?

The only name I can trace with any semblance to "Gin-Gin" is an obsolete name used by Latham for the Cingalese Alexandrine Parrakeet (*Palæornis cupatria*), namely, Gingi Parrot.

Whatever the bird, it fetched an exorbitant price.

(MRS.) A. A. PRESTWICH.

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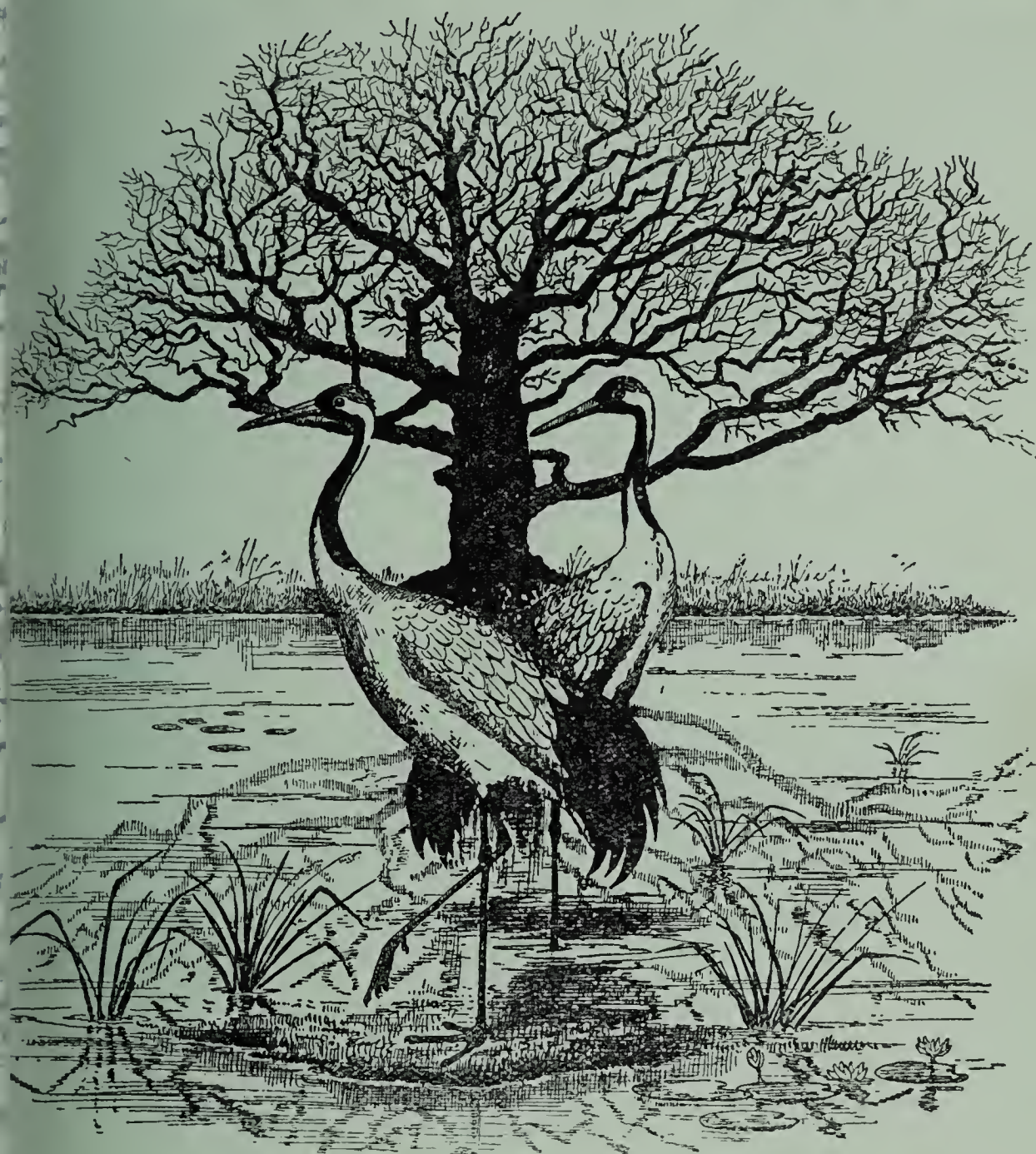
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THE Avicultural Magazine



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THE AVICULTURAL SOCIETY.

FOUNDED 1894

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The Subscription to the Avicultural Society is £1 per annum, due on 1st of January in each year, and is payable in advance. The entrance fee is 10s. The *Avicultural Magazine* is sent free to members monthly. Members joining any time during the year are entitled to the back numbers for the current year, on the payment of entrance fee and subscription.

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IN FREEDOM & CAPTIVITY

Fourth Series.—Vol. V.—No. 11.—All rights reserved. NOVEMBER, 1927

SOME BIRD NOTES FROM TENERIFE

By G. H. GURNEY, F.Z.S.

(Concluded from p. 269)

Ravens, *Corvus corax canariensis*, nearly always in pairs, were much in evidence; for a few days two haunted a large Ficus-tree in the hotel garden, occasionally I saw them on the beach, searching amongst the debris thrown up by the tide; and not at all disturbing the Kentish Crows, another very common bird, which were engaged in the same pursuit. In the gardens and thickly grown barrancos, many interesting birds occurred, nearly all species or sub-species peculiar to the islands.

For instance, Cabrera's Blackbird (*Turdus merula cabreræ*), which was very common, cocks seeming to be a great deal more plentiful than the very pale-coloured hens; Canaries (*Serinus canarius*) singing everywhere and breeding by 1st March, Chiffchaffs in swarms, Dusky Blackcaps (*Sylvia capilla obscura*) and the Tenerife Blue Titmouse. With regard to the latter species, there are no less than four perfectly distinct races of the Titmouse living in the Archipelago. On Gran Canaria and Tenerife *Turdus caeruleus teneriffæ* is the form: the islands of Hierro and Palm

each have their own sub-species, *P. c. ombriosa* and *P. c. palmensis* while on the two large islands of the Eastern Group *P. c. degener* is found, and it is extraordinarily interesting to note that these races show special colouring in their plumage according to the conditions in which they live. For instance, *P. c. palmensis*, which lives in the verdant mountainous island, is much more richly coloured than the pale forms, *P. c. degener* inhabiting the dry arid islands of Lanzarote and Fuerteventura. All these forms are races of the European Blue Titmouse (*P. c. caeruleus*). Another common bird, though a very interesting one, which was generally to be seen in the barrancos was the Spectacled Warbler (*Sylvia conspicillata bella*). The cocks are beautiful in their breeding plumage, but they were very shy, and would quickly dive into the thick foliage if they thought they were being observed. On 19th March a pair were watched carrying food in their beaks but owing to the extremely precipitous nature of the ground it was impossible to search for any nest; when frightened this bird uttered a very peculiar chattering cry. On more open ground Berthelot's Pipit occurred frequently all round Orotava; they were also breeding and were very confiding and tame. Here, too, the Rufescent Short-toed Lark was found, often in company with the Pipits. One of the commonest birds at Orotava was the Hoopoe: they were to be seen everywhere, and two pairs were feeding young in the Martiá Barranco just outside the hotel. In the Laurel Forest Zone at about 2,000 feet, one finds quite a different lot of birds, amongst the most interesting the Superb Redbreast (*Erithacus rubecula superbus*) which was common, splendid large dark brown birds, with brilliant ruby-coloured breasts; while flocks of Brehm's Pale Swift (*Micropus murinus brehmorum*) flew screaming up the barrancos. Another species, viz. the small Black Swift (*Micropus u. unicolor*), was also seen, but as a rule they seemed to be commoner nearer the coast.

A long expedition was made on 19th March to a reputed locality for the Teydean Blue Chaffinch in the Pine Forest Zone above a villa called La Sorriba. After an hour's drive in a motor, which was enlivened by the great quantities of Neophrons, Kites, and Buzzards which were continually in view, we found mules waiting for us at La Sorriba. Leaving the road, we began to climb upwards on a very steep mountain

back, with splendid scenery all round. After an hour's arduous climb we became aware that the character of the country was changing, and single pine-trees began to appear, and very soon we had reached the forest itself. After the very gloomy accounts we had heard of the destruction of the pines by local woodcutters, we were agreeably surprised to find that here, at any rate, were many miles of quite unspoilt forest, indeed the "Pinar" stretched as far as the eye could see in all directions. We were not lucky enough to see the "Azule", the local name for the Blue Chaffinch, which has probably of recent years become very much rarer in Tenerife than it was in 1893 when Mr. Meade-Waldo wrote "it appears to hold its own in all the pine-forests of Tenerife"; indeed, he was able to bring a pair home, which he kept in his aviaries, and Mr. Ezra had a specimen, I believe, a few years later. All the natives know of the existence of the "Azule", and have an entirely inflated idea of its value, and although I offered a good price if a pair of live ones were obtained for me, I never received any. The natives are rather fond of keeping birds alive in cages, and one often sees the fine local form of Koenig's Partridge looking remarkably well in a tiny cage in which it can hardly turn round! In some of the patios in the Spanish houses were small aviaries containing Canaries (they prefer the domestic breed to the much more interesting local wild Canary), Goldfinches and, in several instances Blackcaps, the latter in each case looking the picture of health and in the finest condition. In the Botanical Gardens at Orotava was a large outdoor aviary containing, amongst a number of common foreign Finches, two good Black-breasted Sandgrouse (*Pterocles orientalis*), two or three specimens of the Least Goldfinch (*Carduelis c. parva*), some Madeiran Rock Sparrows, a single Thanner's Bunting (*Emberiza calandra thanneri*), and a remarkably tame Red-billed Chough, which followed the gardener about everywhere. On 25th March an expedition was made to the Charco of Maspalomas in the extreme south of Gran Canaria, and a most interesting day was spent in this very remarkable locality. Leaving Las Palmas in the early morning by motor-car, the road for the first 10 miles or so was fairly good, but after passing a place called Telde, it very soon degenerated into the merest track, and at times ceased to exist altogether. Large birds of prey were almost continually

in sight, and flocks of Berthelot's Pipits and many Short-toed Larks would fly up from the side of the road as we passed; soon after passing Telde one gets into practically desert country, arid stony plains, and miles of bare sandy ground, which have a certain fascination of their own, added to by the wonderful desert flora one passes. The growth of huge Candelabra Euphorbia (*Euphorbia canariensis*) which is peculiar to the islands, followed by another most striking species *E. balsamifera*, which here grows over 6 ft. high, the miniature Dragon tree (*Kleinia neriifolia*) growing out of the sand, and as a contrast to the bright green pendulous foliage of *Plocama pendula*, all make a fascinating picture, which was accentuated by the interest of the birds we saw, species peculiar to this district; the fine Koenig's Shrike (*Lanius excubitor koenigii*) becoming quite common, and looking very conspicuous as they sat on the topmost shoot of an Opuntia, watching us intently as we passed. I have no doubt they were breeding, but we had not time to stop and look for their nests, as I was anxious to get to the Charco itself, another 30 miles further on. This reason also prevented me searching for the Eastern Canarian Thick-knee (*Edicnemus o. insularum*), which is found not uncommonly on the plains, and the Trumpeter Bullfinch had to be missed too, though I expected to find the species at the Charco. A collision between a motor and a bullock-cart also caused a long delay, the terrific argument between the drivers of each vehicle as to who was in the wrong nearly came to knives being drawn in true Canarian fashion, and so it was not almost one o'clock before we eventually got to our destination and were able to start searching for the Coursers which we had come so far to see.

The Cream-coloured Courser is found here on little shingle beaches between the sandhills which stretch along the shore. The sun pouring down from a torrid sky made the ground extremely hot, and shade there was none, and vegetation seemed to have entirely disappeared: in fact almost the only life of any sort to be seen was represented by four large Vultures sitting motionless on the shore, who allowed us to approach very close before flapping slowly off. We soon saw a pair of Coursers running on the shingle in front of us. They were not particularly shy, and would often stop and turn their heads right round to have a look at us. When running they are

extremely inconspicuous, but as soon as they fly the black on the under side of the wings shows them up plainly.

In the foregoing notes I have only mentioned a very few of the more interesting species we saw at Orotava; a little later in the year Golden Orioles arrive, also Bee-eaters and Rollers, and many rare migrants turn up. A sub-species of the Houbara Bustard (*Chlamydotis undulata fuertaventura*) is resident on the island of Fuerteventura, but found nowhere else. The extremely rare Black Oyster-catcher (*Haematopus meadewaldoi*) is also found there; the Black-breasted Woodgrouse (*Pterocles orientalis*) is another species peculiar to Fuerteventura. Many rare species of Petrel and Shearwater breed on the rocky coasts of some of the islands; while a very local Chat (*Saxicola rubicincta muricla*) has so far only been found in the islets of Montana, Aljebe and Allegranza. Indeed, so attractive is the bird life on these Canary Islands that I can imagine no pleasanter spot for an ornithologist to pass a winter in exists.

BREEDING OF THE GREY FRANCOLIN (*FRANCOLINUS PONDICHERIANUS*)

By MAURICE AMSLER, M.B., B.S., F.Z.S.

It was in May of this year that a pair of these birds came into my possession, through the kindness of one of our new members, Mr. Geoffrey Davies, I.C.S., who had just returned on leave from India. These birds had reared four young before they left their native country, and had started laying again towards the end of their journey from England.

Both birds were most delightful pets, far tamer than any Barndoor Pouter—they had, I believe, been captured when quite young, and were therefore thoroughly domesticated and much attached to their small home, which was one of the familiar double-domed Indian bamboo cages with a compartment for each bird—it was in these restricted quarters that the first brood was reared in India—but the birds being so tame, it was possible to open the doors and let them out to forage for food, have their dust-bath, etc., and it was only necessary to approach them with the cage, when they would step inside with exemplary obedience.

When the Partridges came to me on 19th May, the hen had laid four eggs of a creamy white colour, much the size of that of our own Partridge.

On arrival I placed their cage with the doors opened in a small covered run about 4 feet square. This enclosure was in the shelter of one of my aviaries, and it was possible to let the birds out into the aviary or confine them to the run, at pleasure.

I constructed a nest of turf and hay in one corner and placed the four eggs therein. By 26th May nine eggs had been laid, and the hen began to sit in earnest on the 27th. I reckoned that they should hatch about 20th June, but on several occasions I found one or more eggs thrown out of the nest. Sometimes they seemed almost cold to the touch, but I always replaced them as soon as discovered.

On 19th June to my dismay I found that the hen had given up sitting. The eggs which looked fertile were stone cold. It was the work of a few moments to take the eggs indoors and place them in hot water. After a very few minutes of this treatment some of them began to "wobble" and show signs of life, and not long after several of the chicks could be heard "cheeping" inside the eggs.

Having no broody hen at the moment and no incubator, the eggs were placed in a box on the top of my hot water cistern for the night—the temperature here was only 100°—and I had grave fears that all the chicks would be dead by the next day when I was able to place them in an incubator belonging to a man of my acquaintance. Within a few hours six of the nine eggs hatched, and the chicks at first looked quite normal, though perhaps a little less active than do most Game-birds when they first leave the egg. I gave them ants' eggs, green fly, and Armitage's No. 1 chick food, but on the evening of the third day three had died, and although the remaining three were put in a brooder and carefully fed I lost the last one on 1st July at the age of ten days.

On the same date the old hen began to lay again. She chose a corner of the run immediately behind her bamboo cage, laying the eggs on the hard concrete. In this place I again made a nest for her, and she repeated her previous clutch of nine eggs.

Incubation began on 10th July, and the eggs hatched on the 31st. All the eggs were fertile, but one chick died in the shell.

During the last three days of the incubation I noticed that both birds sat side by side and brooded the eggs, this certainly did not happen on the first occasion. The cock continued his care and attention to the chicks after they had hatched; in fact I think he was, if anything, the better parent.

This second hatch proved to be much more vigorous than the first, no doubt because the chicks got the correct amount of warmth and protection from their parents, and also because they were shown what to eat and what to leave. Their diet consisted at first almost entirely of live ants' eggs. No water was given for thirty-six hours, after which I gave them a few weeds pulled up in the garden, which were covered with rain drops. It was most interesting to note how quickly they realized that this was meant for a drink. First the drops of water were swallowed, and next the tips of the small blades of grass were pulled off and swallowed. On 3rd August I removed the whole family to a small movable run which I had prepared. This was placed on the lawn and moved a yard or so each day. At night parents and chicks were driven into a closed box attached to the run, where they were safe from cold, rain, and rats. Within a very few days I had to move the run on to a piece of rough grass at the bottom of my garden as the parents dug large holes 6 inches or more deep in their search for worms and insects.

When it was raining, or on those rare occasions when the sun shone brightly, each parent would take charge of four chicks and protect them from the weather. The cock, hitherto very friendly and docile, made no mistakes in trying to spur anyone who dared put his hand into the run.

As the young grew the diet was increased and varied a good deal. Ants' eggs were always welcome and cleaned up at once, but as they were also required for other birds, I found that gentles were equally acceptable. A small amount of insectile mixture was eaten dry, also crumbled sponge cake and Indian millet. At ten days the chicks would devour any amount of earth worms—even quite large ones, if broken into pieces an inch long, were eagerly fought for and gulped down. I feel quite certain that fresh grass must form a very large part of the diet of these birds, both young and old; for each day when the run was moved the previous day's site looked as if it had been recently mown.

All seemed to be going well, for the youngsters grew apace, and their feathers well developed at two weeks, when I had to cut wing in case of their escaping. I then noticed that one of the chicks whom I had suspected of some slight deformity, had four legs instead of two, the two supernumerary legs were ligatured and snipped and the young bird at once began to eat and seemed none the worse.

At three weeks the young birds were the size of Chinese Paine Quail; they had lost the longitudinal striations, which I believe common to Game chicks, and could fly strongly notwithstanding trimming of one wing.

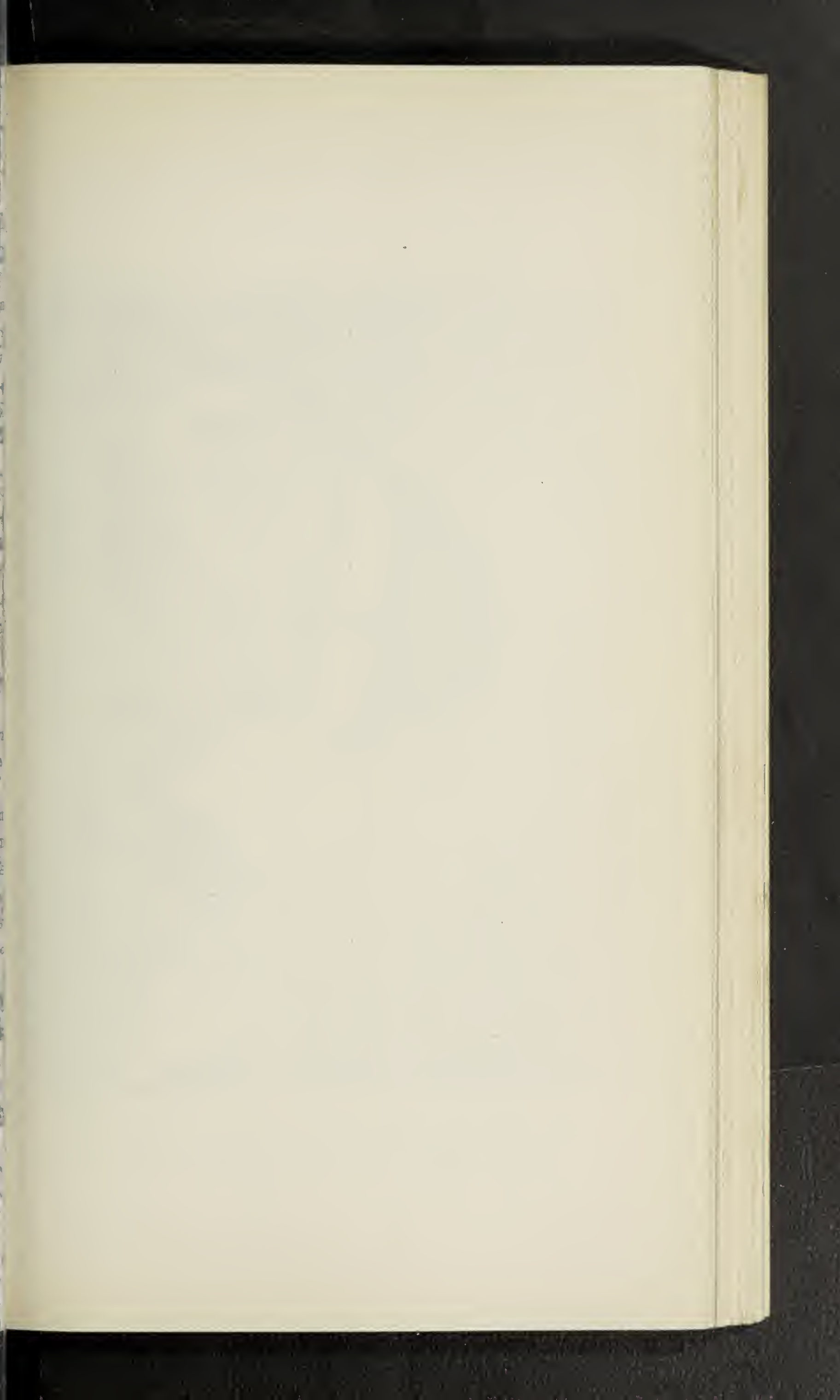
About this time I began to think they did not look quite so tight in feather as they should, and a few days later one died, and several others looked ill. I came to the conclusion that they were suffering from absence of sunshine and the effects of the constant rain. So on 30th August I replaced the seven chicks and their parents in the original aviary, but did not confine them to the little run when the chicks were hatched. The result of this was that the birds spent most of their time in the soaking grass of the outer flight, and I lost two more young Partridges.

Having learned my lesson, and being left with only five chicks, the family were once more placed in the closed run, and all has gone well since then.

To-day, 21st September, at about eight weeks, the young Partridges are about half-grown. They are much like the hen in colouration, and I should say are perfectly independent, but the moment the parents hear me or my man walking in the aviary they begin to peck loudly at the walls of their run, which means that they want some grub or worms, and when these are forthcoming not one do they touch, all are left for the young and growing family.

I think there are three males and two females among the young birds; of this it will be easy to make certain in a month or two, as the males have well-developed spurs when adult.

This species, like the more familiar "Black Partridge", is much prized in India for fighting purposes, and I believe that good fighting males realize quite high prices.



Avicultural Magazine.



GEESE

By THE MARQUESS OF TAVISTOCK and F. E. BLAAUW

The term "Goose" is applied to several orders of web-footed birds, speaking generally, large birds with varying characteristics recalling those of certain Ducks, and as a matter of fact there are many birds known as Geese or Ducks which by rights belong to the same sub-families, and in many cases these so-called "Geese" and "Ducks" interbreed freely (e.g. Egyptian Geese and Sheldrakes). As a rule Geese have thicker feet and not such flat bills as have Swans and Ducks, and they are not so aquatic. Some indeed do not like to go into water. Their food mostly consists of grass, which, with the addition of grain, is their usual diet in confinement. Most kinds of Geese are hardy and long-lived. A number of pairs of different kinds can be kept together in a park or other enclosure where there is water, and as a rule they will agree well together. The *Cereopsis*, the *Chloëphaga*, the Sandwich Island Geese, the Spurwings and Egyptian Geese are, however, very quarrelsome in spring and must be isolated in pairs in large enclosures well furnished with grass and water. Geese are monogamous, and pair for life; they make admirable parents and usually find no difficulty in rearing their young. They do not breed until they are three years old at the earliest, and if they are older than this it is all to the good.

The true Geese, genus *Anser*, are migratory birds which nest in the Arctic or temperate zones and go South for the winter. They are hardy but not prolific in confinement, and must be pinioned to make them stay. The males are rather quarrelsome in spring, but are not seriously bad tempered and do not harry weaker birds. As soon as the young are hatched disputes cease and the families often unite in a flock. The sexes are alike, except that the female is the smaller.

The GREY-LAG GOOSE (*Anser anser*) is the ancestor of the domestic goose, the grey variety being like it, grey plumaged with pink feet and bill. It is more inclined to breed and is less migratory than the other wild species.

The BEAN GOOSE (*A. fabalis*) is much smaller and darker, with an orange bill, black at the base and on the nail; its feet are orange.

The SHORT-BILLED GOOSE (*A. brachyrhynchus*) resembles the last named, but is smaller, has a shorter bill and rosy feet.

The WHITE-FRONTED GOOSE (*A. albifrons*) is smaller and more elegant in shape. It may be recognized by its white forehead and the very dark deep brown spots on its breast.

The DWARF GOOSE (*A. erythropus*) is the preceding in miniature with slightly darker plumage; it is the prettiest bird of the whole genus.

The BAR-HEADED GOOSE (*A. indicus*) nests in Thibet and winter in India; it may be known from all its relatives by its pretty pea-green grey plumage picked out with darker grey and white, and by the two black stripes across the nape of the neck and the yellow bill and feet. It is often imported but is usually susceptible to cold and not very prolific; it has, however, bred freely at Kew Gardens. If it is not confined it is apt to wander away, but it has not been found to do so at Kew.

The EMPEROR GOOSE (*Anser canagica*) from North-east Asia and North-west America is very rare and has only been bred in captivity of late years. It is very handsome, bluish-grey, every feather edged with black and white. The sides of the neck and crown of the head are yellowish white, the feet are yellow, and the beak rosy grey. It is easily bred in confinement and is very gentle. It requires good pasture and maize best not be given, being too fattening and likely to bring on apoplexy. The sexes are alike in plumage but not in size. This species cannot stand heat and requires fresh running water.

The CHINESE GOOSE (*Anser cygnoides*) from North Asia is represented in many farmyards by a domesticated variety from which it is distinguished only by its more slender figure. The wild species is practically unknown in confinement. The male is the larger and has also a large knob above its bill.

The SNOW GESE are like the preceding but have rose-coloured bills and feet. They are white or sometimes of a light bluish-grey colour. They are inhabitants of North America and Eastern Asia and are accidental visitors to Europe.

The WHITE SNOW GOOSE (*A. hyperboreus*) is pure white with black flights; young birds are greyish-brown above. It begins to breed at

years old, but does not go to nest readily and takes a long time to make up its mind. Unpinioned birds will usually stay. A larger species (*A. nivalis*) has been imported, a native of northern North America. The BLUE SNOW GOOSE (*A. coerulescens*) is sometimes considered to be a mere variety of the white; and when the two interbreed their young may be either blue or white, but the blues will be whiter underneath. This Goose is grey-blue with black grey markings, and with partly white wings, head, neck and underparts. It is met with in North America, east of the Rocky Mountains.

ROSS' GOOSE (*A. rossi*) is much smaller and more elegant; it is all white except for the black flights. It breeds freely in captivity. It is quite one of the prettiest Geese and is a native of North-western Siberia.

The GEESE of the genus *Branta* are like the preceding species in general position, but are more marine; they have smaller bills, and longer, thinner necks. The sexes can only be distinguished by their size. The BERNICLE GOOSE (*Branta leucopsis*) is one of the prettiest European species, having its plumage heavily marked with black, white and grey. It thrives and breeds freely in confinement. If the young are left unpinioned they stay fairly well where they were born.

The BRENT GOOSE (*B. bernicla*) is exclusively marine. It lives well in confinement where it can have grass, but soon dies if fed on grain alone. To our knowledge it has not yet been bred in confinement. It is smaller, darker, and duller coloured than the preceding species.

The RED-BREASTED GOOSE (*B. ruficollis*) from Siberia has unusual markings. It is the handsomest of the genus. Black, with the sides of the neck and the breast bright rust coloured edged with white; the back also white about the head and under the body and wings. It is very scarce; does well in confinement, and has been bred at Woburn.

The CANADA GOOSE (*B. canadensis*) is the largest of the wild Geese; it is a fine striking bird, in colour brown mixed with fawn, and with a black head and neck. A white streak from one cheek to the other passes under its bill. It is a native of North America, breeds freely in confinement, and need not be pinioned. Its voice is one of its charms, and as it calls principally while flying, it is preferable if only on this

account to leave it full winged. The male bird becomes quarrelsome in the nesting season and may injure other Geese or even small Swans but it does not attack Ducks. Once the young are hatched the gander abandons his warlike demeanour and with his family seeks the company of his kind, thereby refuting the theory of certain naturalists that the fierceness of breeding male birds is a provision of nature to ensure sufficient space wherein to find food for the young.

HUTCHIN'S GOOSE (*B. hutchinsi*) inhabits the same neo-Arctic region and resembles the preceding but is only half as large. It is rarely met with in confinement. Another occasionally imported species which resembles the first but is even smaller is *B. minima* from Western America. They do well in confinement but, unlike their larger relatives, are shy breeders.

The SANDWICH ISLAND GOOSE (*Nesochen sandvicensis*) is almost extinct in a wild state. It is a very fine bird and has very pleasing habits. Its colouring is brown variegated with grey and its neck feathers are barred with light fawn; its head, a stripe behind the neck, beak and feet are black. This species bred freely in the London Zoological Gardens many years ago and has been kept by Herr F. Blaauw at Gooilust for the last thirty years. It is easily bred, but in spite of this is not easy to manage, one reason being that the eggs are laid very early in the year, the end of February or the beginning of March, that is long before fine weather can be looked for. Consequently they often fail to hatch or the young die from cold nights and changes of temperature. Another reason is the spitefulness of the males; sometimes a gander has lived peacefully for years with his mate, and then suddenly will attack and kill her, and one has not always the luck to intervene in time. Some males are so ill-tempered that they cannot ever safely be left with a female and always need watching. The young are easily reared and thrive best when they are left to their parents. They are susceptible to cold, particularly if it comes suddenly after a long period of warmth, and it is wise to bring them into shelter at night during early summer.

The South American Geese belonging to the genus *Chloëphaga* form a very distinct group. They are very handsome birds both in shape and colour. They are more terrestrial than aquatic, are long

ed and walk well; they have very small bills. The genus contains six species; in three of these the sexes are alike, and in three they differ, but both are pretty. Those in which the sexes are unlike are the MAGELLAN GOOSE (*Chloëphaga magellanica*) in Patagonia and the Falkland Isles, which is kept throughout the year, where it breeds freely and does well. The sexes are altogether unlike each other, the male being white, striped on the sides with black, with a grey back. His wings are grey with black and white spots and a large reddish-brown speculum, his tail is black as are also his bill and feet. The female is russet where the male is white, her wings like his but her feet are yellow. The male whistles, but the female has a loud call resembling the word "purr-roor". The sex of young birds can easily be distinguished as soon as they get their feathers, though at that time the males have grey heads instead of white ones. In the breeding season these Geese are very vicious towards their companions, particularly if these happen to be Sheldrakes. They are allowed full power of flight. The nearly related species (*inornata*) is frequently imported, in this the male has the breast as well as the sides barred. The females are identical. They are natives of Chili and the Argentine.

The RUDDY-HEADED GOOSE (*C. rubidiceps*) is much smaller. The sexes are alike and resemble the hen Magellan, only with redder heads and greyer bodies and more delicate markings. Their voices are like those of the foregoing species. This is a far rarer and more delicate species than those already mentioned. It requires very pure water with fresh grass. It is peculiar to the Falkland Isles.

The ASHY-HEADED GOOSE (*C. poliocephala*) is another pretty little species and is very rare. Needs similar treatment to the preceding and like it breeds freely. Both sexes have ashy-grey heads, rufous backs and breasts, white abdomens, and black and white spotted sides; bills and tails the same colour as the Ruddy-headed; large yellow feet spotted with black. It is found in Patagonia, both in Chili and the Chiloë Isles.

The KELP GOOSE (*C. hybrida*) is a peculiar bird. The male is pure white with black and yellow spotted bill and yellow feet. The female is dark brown above and has white stripes on head, neck, breast and

sides ; her abdomen, rump and tail are white ; she sports a white and green speculum ; has a flesh-coloured bill and yellow feet. This handsome species is met with in the Straits of Magellan, Tierra del Fuego, and the Falkland Islands. Unlike its fellows, the Kelp Goose does badly in confinement, which is accounted for by its habits in its own country. There, where the species is fairly plentiful it is always found among rocks by the seashore. It does not go inland to feed like other geese, but lives exclusively on a kind of algæ called "lutsche" by the natives, and doubtless also on small marine creatures. We once brought a Gander back, but in spite of every care he only lived for a few months at Gooilust ; although he fed freely on all sorts of things they did him no good ; he "went light" and finally died. We brought with us a bag of dried "lutsche" bought at Santiago, where it is sold for human food, but it became exhausted, and could not be obtained in Europe.

Apart from this individual we only know of two other importations, one in 1868 to the London Zoo, and one more recently to Berlin ; but neither bird lived for any length of time. Both male and female are very handsome, and it would be interesting to make another attempt at acclimatizing them.

The ANDEAN GOOSE (*C. melanoptera*) is rare in confinement but has been bred in the London Zoological Gardens. It chiefly inhabits mountainous parts of south-west South America. The sexes are alike but the male is much the larger. It is a big white bird and its greenish-black wings have a purplish speculum ; its tail is black, its shoulders light brown with darker spots, beak and feet are red.

This species does not mind the cold, but is subject to various diseases. It is easily tamed, but the Ganders are apt to turn spiteful, pursuing their keepers, and puffing themselves out with curious whistling noises. They appear to dislike the water.

The BLUE-WINGED GOOSE (*Cyanochen cyanopterus*) from North-east Africa has only twice been imported, but there are now several at Gooilust. It is ashy brown with pale grey spots, black flights and grey-blue wing coverts ; bill and feet are black. It seems to be nocturnal in habit, only moving about like a true Goose after dusk. It keeps motionless during the day, and if obliged to move it does so

a very curious attitude, its head lying on its back and the chest advanced: It has been bred by Herr Blaauw. Gander and Goose are alike in their plumage, but she is the smaller and has a different call.

The MANED GOOSE (*Chenonetta jubata*) from Australia has much the appearance and size of a Carolina Duck. It is one of our prettiest species, the male bird's plumage is silvery grey and black with a deep chestnut head and back; the feathers at the back of the neck are long and form a kind of mane. The female is light brown with grey streaks. Both sexes have very distinctive plumage and the effect is beautiful. This species is pleasing both in character and habits; it is very hardy and needs pure water and fresh grass. It breeds very regularly and doubtless it would be desirable to give it a nest receptacle like that used by Mandarins and Carolinas, a small kennel raised above the ground and reached by a sloping plank. It bred successfully thus in the London Zoological Gardens.

The CEREOPSIS GOOSE (*Cereopsis novæ-hollandiæ*) is a large and remarkable Australian Goose; its colouring, which is the same for both sexes, is pale ashy grey, having blackish spots on the wings, the bill greenish yellow, the legs are deep rose colour and the feet black.

It is a terrestrial bird and often travels far from water. It is very aggressive during the nesting season, its victims being chiefly terrestrial birds; even Cranes find them dangerous. It is a very hardy species, and often breeds in the depth of winter when it is necessary to shelter the nestlings. The female has a deeper voice than her mate, and the sexes can easily be distinguished owing to this peculiarity. The *Cereopsis* must be pinioned to make it stay; young birds disappear with extraordinary rapidity unless pinioned.

We shall now consider those birds which, though popularly known as "Geese", scientifically speaking are really intermediary between Geese and Ducks.

The SPUR-WINGED GOOSE (*Plectropterus gambensis*) and its related species make up a little African genus of which some examples are reported from time to time. They are large birds with very large pink bill, metallic black and white plumage, strong beaks with a purplish knob. They are unfortunately ugly and clumsily built, very impatient, and very susceptible to cold. The sexes are alike.

The PIED OR SEMI-PALMATED GOOSE (*Anseranas semipalmata*) from Australia slightly resembles the above-named bird but anatomically it is altogether different. Its colouring is dull black and pure white but its shape is far more pleasing. Its bill and slightly palmated feet are orange yellow. It is a hardy and harmless species. The sexes are alike. It has not yet been bred in captivity though eggs have been laid. If allowed the use of its wings it perches freely. It has a peculiar odour.

The EGYPTIAN GOOSE (*Alopochen ægyptiacus*), a native of Africa and Palestine, really belongs to the Sheldrake group, with which it interbreeds readily and produces fertile hybrids. It is hardy and prolific but very quarrelsome. If kept in a small enclosure it will kill all the birds it can master, but on a lake it only attacks Geese and Sheldrakes and leaves small Ducks in peace. Young unpinioned birds usually stay well unless their parents drive them off. The sexes are alike in plumage, which is greyish fawn prettily relieved with chestnut and golden red. The wings are white, reddish brown and tawny with black primaries. Feet and bill are pink. The Gander hisses and the Goose makes a loud cackling.

The ORINOCO GOOSE (*Alopochen jubatas*) is found on the banks of the great tropical American streams, particularly the Orinoco and its tributaries. It is very rare in confinement. Its head, neck and breast are greyish white, the mantle is russet and brown, back, wings and tail metallic black, the under parts a mixture of russet, white and black, beak red and black; feet pinkish orange. The female may be distinguished by her smaller size, and resounding cry, while the male whistles like the male Magellan Goose. The species has been kept several times in the London Zoo and has been represented at Gooilust since 1886 but it is only rarely imported and fresh blood is seldom available. The Orinoco Gander is very aggressive, but usually his temper is directed against human beings and not against his mate.

This species is not hardy in Europe, and must be taken into a heated shelter as soon as the weather turns frosty. Even in autumn it should be driven in as soon as the nights become chilly, and shut up in a shed well furnished with dry straw. The Geese usually start laying late in the season, which is a good thing as there is more hope of warm weather. They lay at least eight to ten eggs every year, but very few are fertile.

that one may consider oneself very lucky if four or five hatch out. These Geese often fall ill if they are allowed to sit, accordingly it is prudent to take the eggs away after a few days' incubation and put them under a small kind of hen.

The young grow very quickly, and are not usually difficult to rear. They are given plenty of ants' eggs and kept warm. They must be kept in a warm place as soon as the weather begins to turn cold.

The Orinoco Goose is a splendid bird, but requires great care to keep it healthy in our climate. It is closely related to the Egyptian Goose with which it interbreeds very readily.

THE BREEDING OF THE MALABAR PARRAKEET (*PALÆORNIS PERISTERODES*)

By THE MARQUESS OF TAVISTOCK

This pretty *Palæornis* is an uncommon bird in confinement; only one has come into my possession since I began aviculture, and I have seen but two more in other collections. The first specimen I ever owned—a cock given me by Canon Dutton—I tried to mate with a female Moustache Parrakeet (*P. fasciata*) living at liberty. The two birds greeted one another in the most friendly way, but unhappily the Malabar had not learned the language of his alien bride and did not connect her with her cries when she was out of his sight. The consequence was that he lost touch with her the evening following his escape, strayed, and was never heard of again. Several years later the present breeding pair reached me. They were in immature plumage, and as the beaks of both were black with a little red I concluded that I had a couple of young cocks. It was, therefore, an agreeable surprise to me when the beak of one gradually became wholly red, and that of the other entirely blackish, showing that I had a true pair. For a considerable time the hen Malabar did not appear very strong, and showed poor quality of feather. Feather weakness seems not uncommon to the species, as a breeding hen at the Zoological Gardens ultimately showed a very weak and ragged growth of feathers from close confinement and lack of fruit, and, though she improved a little after coming into

my possession, I was never able to make a good bird of her to the end of her days.

For two years the Malabars showed no sign of nesting. In the third they inspected a nest-box but got no further. In the fourth the hen laid and got egg-bound—a very common occurrence with this species, which likes to breed in February if it can. The three eggs were given to foster parents, but proved infertile, as the cock, for some reason, would not pair properly with the hen, though in many ways he was very attentive to her and extremely interested in the nest. Later in the spring the hen Malabar again laid, this time without accident, as the weather was then warm, but once more the eggs were clear.

I began to fear that my cock was useless as a breeder, and it was an agreeable surprise when, the following year, one of the three eggs proved fertile and hatched. All went well for about ten days, and then one morning I opened the aviary shelter to find the nest-box fallen to the ground and the young bird inside cold and dead. The nest was fastened to the side of the aviary shelter by means of a very large nail passing through a brass eyelet hole. Naturally I supposed that the nail or the fastening had gone loose, but strange to say the latter was perfectly intact and secure while the big nail, with an upward cant, was as firm in the wood of the shelter as when it was first driven in! I can only conclude that my enemy X, annoyed at the prospect of a young Malabar being successfully reared, had, in the dead of night, detached the heavy box from the nail and hurled it to the ground!

This year I determined that whatever games X might play, he should not be able to repeat his little joke of 1926, so I provided the Malabars with a perpendicular natural tree trunk in the shelter, about five feet high and hollow for half its depth. For some reason the birds were slow in settling down. April passed and May was well advanced, and I began to have serious fears that they would drop into moult without laying at all. The cock was anxious enough to set up house and was constantly rushing into the shelter with loud screeches and trying to entice his mate to enter the hole. Finally, as on a previous occasion when she had been unduly slow in taking up her domestic duties, he lost

patience and went for her tooth and nail. His display of temper was all the more amusing as on ordinary occasions he invariably gave way to her ; indeed in their behaviour to one another the pair always reminded me of human married couples living in that bygone period when husbands and wives addressed one another as " Mr." and " Mrs." and treated each other with a kind of distant courtesy. The Malabars are really quite fond of one another, but the hen always liked to be as being rather severe and managing, and as a rule her mate courted her out of politeness. During the winter and early spring months they would display to each other from a distance, bowing lowly with the neck extended, " chin " depressed, tail slightly raised, and iris contracting. Occasionally during the display the hen would bring up food from her crop, but she never fed her mate nor allowed him to approach her closely. Only when she was nesting earnest would she let him feed her. In the ordinary way the cock appeared to be an almost henpecked husband, but it was only on rare occasions that she drove him about, as on the rare occasions when she really annoyed him he put her in her place in no uncertain fashion. After the tiff above mentioned the hen went to the nest in a chastened frame of mind, her movements being accelerated by her angry spouse. At the entrance hole she turned on him and although a moment before she had been making her fly for her life, he got out of her way at once, for it is etiquette for cocks to give way to their wives at the nest. So long as she was doing her duty he was still prepared to show her the courtesy due to a lady, but at the same time there were limits to the indulgence she had a right to expect, and in future she would remember that those limits were ! One of the strangest, most interesting and most amusing things I have observed with breeding Parrakeets is the anger and distress the cocks often display when their partners will not settle down in an eligible residence that has been provided for them. This annoyance is not due to thwarted sexual instinct, as it is displayed just as much when the hen is willing to pair ; neither is it rational, for it is hardly ever shown when there is no nest within reach and the birds are in breeding condition.

After the lesson she had received the hen Malabar began to settle down to business and had laid before the end of May. I was still anxious,

however, as she sat unsteadily, coming off the nest at the slightest alarm, while a dropped feather or two hinted at the arrival of the moult already overdue. However, she did not desert. In due course four eggs hatched and early in August the young ones left the nest at intervals of some days. In colour they are not unlike the old bird and more closely resemble the adult male than any other nestling *Palæornis* I have seen. The areas of the plumage, which are grey in the adult, are heavily washed with green in the nestling, giving a more uniform green tint to the whole body. The black ring of the adult is quite clearly indicated by a dark line widening under the lower mandible. To my surprise, the beaks of all are not black but red, though having a small dusky patch below each nostril. Presumably, therefore, the dark beaks of certain female *Palæornis* are not a primitive characteristic but a recent development, and it is the brighter red beak of the male which is the primitive feature. The red-beaked female Javan Parrakeet would appear to be a more primitive type than the dark-beaked female of the almost identical Moustache Parrakeet. Does anyone know the colour of the beak of a hen Moustache Parrakeet when she first leaves the nest?

On the day on which the last young Malabar emerged I was disturbed, when passing the aviary, to hear flutterings and screeches which told all too plainly that a row was in progress in the shelter. Had the parents, now that success was almost in sight, grown tired of their offspring and decided to murder the lot? On opening the door of the shelter the cock popped out, and I found the hen and the youngest baby both looking upset and dishevelled and clinging to the wire. What had happened, and what was to be done for the best? Both adults were moulting, so there was no question of a second nest. Had the parents quarrelled about the education of their family or had the hen attacked her youngest child and been very properly punished by the father? Relying on the fact that the male Parrakeets are usually more patient and devoted to their newly fledged young than the mothers, I removed the hen Malabar to another aviary and hoped for the best. Luckily all went well, and the cock proved a model parent. In the care of his children he was amusingly methodical. Each one was fed at a different time to the others; he seldom fed all at once.

have watched him after dozing in the flight, suddenly say to himself, Tommy's mealtime!" and he would go quickly off in search of Tommy. Jane and Susan might meet him first and loudly demand attention; Tommy might be out of sight and quite quiet, but if it is Tommy's mealtime, Tommy and Tommy only would be hunted out and fed. What a contrast to those birds which always feed the fat and most clamorous youngster and sometimes starve the smaller and weaker members of their brood! When hungry, young Malabars utter a quavering cry—a series of squeaking chirps—uttered in a lower and softer key than most young Parrakeets employ. The voices of the adults are, however, most unmelodious—a succession of short, harsh peeches, or, when displaying or investigating nesting-places, a more prolonged screech in a somewhat deeper tone. Jerdon says of the Malabar: "Its cry is mellow, subdued and agreeable." Either Jerdon is deaf or he never heard *P. peristerodes*!

THE AVIARIES AT WINSOR

By MRS. A. A. PRESTWICH

The main aviaries consist of a range of twelve, facing south. Each aviary has a shelter 6 feet wide, 4 feet deep, 6 feet high front, and 6 feet high back. A large window of Muranese glass is fitted in the front of each. The floors are cement. Attached to each house is a flight 6 feet long, 6 feet wide, and 6 feet high, half-inch wire netting being used. Shrubs, etc., were originally planted, but as the majority of the inhabitants are Parrakeets, they were quickly denuded of leaves, and now only the skeletons remain.

The inmates and their doings this year are as follows:—

No. 1.—A pair of Abyssinian Lovebirds, went to nest in May, and laid four eggs which they did not hatch; they are now incubating again.

No. 2.—A large flock of Green Budgerigars have had a long succession of nests and have done fairly well, but quite a number of eggs have not been hatched.

No. 3.—Some odd Parrakeets, including a Cockatiel, an All-green Parrakeet, and a Lineolated Parrakeet.

No. 4.—Red-crested Cardinals and a Purple-eared Glossy Starling.

No. 5.—A colony of Nyasa Lovebirds, have been very successful; quite a large proportion of the eggs laid were hatched and the young reared.

No. 6.—Madagascar Lovebirds, have only played at nesting; eggs laid everywhere but in the right place.

No. 7.—A pair of Red-speckled Conures (*C. euops*), have now been out of doors four years. They have nested four times during the last eighteen months, laying four or five eggs on each occasion; in each case they have eaten the eggs after sitting for ten days to a fortnight. They are a true pair, but possibly the eggs are infertile.

No. 8.—Black-cheeked Lovebirds, have reared several youngsters.

No. 9.—A cock Madagascar Lovebird mated to a hen Red-faced Lovebird, very friendly but do not seem interested in nest-boxes.

No. 10.—A cock Madagascar mated to a hen Black-cheeked Lovebird, five eggs were laid but proved infertile. A Madagascar supplied as a mate earlier in the year was scalped by the Black-cheek.

No. 11.—Masked Lovebirds, no attempt at nesting yet, but daughters are still young.

No. 12.—A pair of Turquoise-rumped Parrotlets (*Psittacula cyanocephala*) from Western Mexico, wintered out successfully, but as far as I can tell have never ventured inside a nest-box.

Another aviary with a shelter 12 feet wide and 6 feet deep, and with a flight 42 feet long and 36 feet wide, is in course of erection; this will be tenanted by a mixed series of Lovebirds next spring. Two smaller aviaries are reserved for the use of two African Grey Parrots and a Blue-fronted Amazon, and for any British birds that come to hand. A delightful pair of finger-tame Abyssinian Lovebirds complete our family of aves at present.

AVICULTURAL NOTES

By THE EDITOR

The second number of the *Budgerigar Bulletin*, the official organ of the Budgerigar Club, contains some very valuable information regarding the breeding of the various colour-varieties of this Parrakeet. The laws of heredity brought to light by Mendel have been shown to apply

the Budgerigar as to other animals and plants, and an able article Consul-General Cremer shows how these laws can be relied upon explicitly, and if a breeder understands them and knows the pedigree of his stock he can calculate with accuracy as to what colour and what percentage he may confidently hope to produce.

The chief difficulty when breeding from blue-bred greens or green split-blues, as General Cremer calls them, is that a percentage of the progeny are pure greens which cannot be distinguished from blue-bred greens from the same nest. These can be tested by crossing them with blues. If pure greens they will produce only greens, albeit these will be blue-bred, but if themselves blue-bred (or split-blue) they will produce some 50 per cent of blue offspring.

Another collector from the East has arrived in the person of Mr. Mayer, who has landed a choice collection of birds, mostly from New Guinea. Amongst these the following are worthy of special mention: A Blue-collared Parrakeet (*Geoffroyus cyanicollis*), a very beautiful species, though apparently delicate; a Pleasing Lorikeet (*Uyepocharmosyna placens*), no larger than a Budgerigar, Black-winged, Black-capped, Blue-streaked, and Purple-capped Lories; Red Birds of Paradise, Black-capped Fruit Pigeons, and Victoria Crowned Pigeons, not to mention a large number of Three-coloured Parrot Finches.

The *Emu* for July, 1927, is a particularly interesting number, containing as it does accounts of some of the most beautiful and rare of the Grass Parrakeets, and their present status in their native habitat. Mr. E. Ashby writes on the Orange-breasted and Blue-winged Parrakeets (*Neophema chrysogaster* and *N. chrysostoma*) as observed by him. Mr. W. W. Giblin and Mr. A. W. Swindells supply notes on the nesting habits of the Blue-wing in Tasmania, while Miss Florence M. Irby writes on the Scarlet-chested or Splendid Parrakeet (*N. splendida*) and the Paradise Parrakeet (*Psephotus pulcherrimus*), both of which exquisite species she has been fortunate enough to observe in their wild state. An excellent photograph is published of a male Paradise Parrakeet at its nesting hole in a termites' mound, and Miss Irby supplies the

information that this species also nests in holes in banks of creeks after the manner of Kingfishers, an observation that has not previously been published. Still another rare Parrakeet is the subject of an article by Lord Clive in this issue, namely the Ground or "Button-grass" Parrakeet (*Pezoporus wallicus*), which is still comparatively common in South-West Tasmania, though gradually disappearing in front of advancing settlement and settlers' cats.

A rare bird that has just been acquired by the Zoological Society and has not been represented in the collection for nearly forty years is the Horned Screamer (*Palamedea cornuta*), from the Amazon valley. It is as large as a Turkey, black above with white underparts and a mottled black and white breast, and on the head it carries a thick horn. It has very large feet and feeds chiefly upon grass and other vegetable matter. It is extremely tame and delights in being petted.

CORRESPONDENCE

TANYGNATHUS LUCONENSIS

SIR,—I have recently received a Tanygnathus Parrakeet (*Tanygnathus luconensis*) which is perhaps new to aviculture, although, strange to say, it figures in Levaillant's quaint old book on Parrots. In size it resembles Mueller's Parrakeet and in general plumage the Great-billed Parrakeet, but it differs from the latter in having a wide band of turquoise blue across the head and hardly any blue on the rump. There is a well-marked strip of brownish bronze feathers in each wing and some of the smaller wing feathers near the back and mantle are broadly marked with blue. Taken as a whole, the bird's colouring is distinctly beautiful, although, like all *Tanygnathi*, it lacks grace of form. Unlike a captive Greatbill, which is usually sluggish and morose, the Lucon Parrakeet is active and friendly. He talks in a somewhat husky and indistinct voice, and displays to a human friend in the usual manner of the genus by throwing up the head and elongating the neck. Occasionally he utters a series of short screeches like a Palæornis.

Parakeet or Conure, which have no counterpart in the Greatbill's repertoire. I hope eventually to allow the bird full liberty, and it will be interesting to see whether in a state of freedom he indulges in anything resembling the extraordinary "song" of his larger relative.

TAVISTOCK.

BREEDING SUCCESSES IN FRANCE

SIR,—The silver medal of La Société Nationale d'Acclimatation de France has been awarded to Mme. E. Lécallier for rearing the young of the Grey-headed Ground Pigeon (*Gallicolumba rubescens*) and of the Red-tailed Cuckoo Dove (*Macropygia tusalia*). The first time in Europe in each case.

The Grey-headed Ground Pigeon was bred in California by Mr. Ford in 1922 or 1923. One of those bred was presented to the London Zoological Society by the New York Zoo in 1924 (*teste* Dr. Parkinson's list).

DOROTHY G. PRESTWICH.

NYASA LOVEBIRDS

SIR,—I have always understood that *Agapornis lilianæ* made a large nest of pieces of bark, leaves, grass, in fact anything it could get hold of. I have at present a pair—the hen has been sitting a week—which have made no nest whatever. The eggs have been laid on the bottom of an ordinary nesting-box, although plenty of materials for building a nest were available for them if they had wished to make use of them.

G. H. GURNEY.

FISCHER'S AND MASKED LOVEBIRDS

SIR,—In company, probably, with many other aviculturists, I have received a few pairs of Fischer's Lovebird—the last member of the genus to be introduced to British aviculture. It appears as hardy and ready to settle as its other near relatives, the new arrivals settling down at once in an out-door aviary and beginning to take an interest in the logs the moment they were put in. Fischer's Lovebird is much handsomer than Nyasa, with most attractive and rather unusual shades of red-gold

colouring about the face, head, and neck. Mine have a habit of working at their nests extremely late in the evening, long after every other bird except the crepuscular Bourke's Parrakeet, has gone to roost.

The plate that appeared in the Magazine hardly, I think, does justice either to *A. fischeri* or *A. personata*, the latter especially being far more strikingly coloured than it is represented. I have four Masked Lovebirds—a pair and two odd ones. The pair are nesting and may have young. The Masked Lovebird appears less amiable than its three nearest relatives, and the first I received murdered one of their number on the short journey from London to Havant. I must say, however, that there is no undue squabbling between the nesting pair and the two others, as would take place in the case of Peachfaces, so it may be that it is only when its temper is exacerbated by uncongenial surroundings that the Masked Lovebird's supply of love runs short. Certainly, as far as appearances go, *A. personata*, with his bright red nose, coal black face, large white eye circles, and yellow waistcoat, is the most perfect little nigger-devil imaginable!

TAVISTOCK.

ROSY-FACED LOVEBIRDS

SIR,—With reference to the correspondence in the October number of the AVICULTURAL MAGAZINE on breeding *A. roseicollis*, I succeeded in rearing four young from one nest last season (1926). From my observations I would say that the hen solely incubated the eggs although the cock went in and out of the coco-nut husk, presumably to feed the hen, but rarely stayed more than a few minutes. Within a week of the young hatching, the hen died from inflammation, and the cock succeeded in rearing the young himself.

One young got its wing caught in a joint in the husk and unfortunately died before I found anything wrong; one I gave away, leaving father and two young. Unfortunately I omitted to separate, and in February this year one was killed by the parent, leaving one which I am sure is a hen, although they have not shown signs of nesting.

Contrary to general practice, these birds made no nest other than scooping out the husk.

They are most spiteful, although at present I have a pair of Blossoms with them, so far with no bad results.

My birds are noisy especially at day-break, but not unpleasantly so. I feed solely on canary and white millet, the birds refusing anything else.

I may state that the cock was noticeably smaller than his mate.

A. E. BLYTHE JACKSON.

SIR,—I have successfully bred *Agapornis roseicollis* for some years past, both in cages and aviaries, and my observations have shown that the hen always incubates. The cock feeds her on the nest, which she solely leaves, and himself returns to the nest at night.

This year I have had a unique opportunity of making observations, my present pair are perfectly tame and do not in any way resent interference, and on looking into the nest in the evening I have found the hen covering the eggs, and the cock sitting by her side.

WM. K. H. BEARBY.

SIR,—When I bred the Rosy-faced Lovebird in a cage some years ago, the cock of the pair being easily recognized by a defect in his plumage, I found that the hen incubated the eggs. The cock entered the nest at times of emergency, especially when the young were just hatched, but he played no important part in the hatching of the eggs.

Were it not for the extraordinary amount of individual variation in the conduct of Parrakeets of the same species, I should certainly be tempted to conclude that Mr. Nicholson had mistaken the sexes, an error which is not difficult to make, as a hen bird in breeding condition will occasionally imitate, without exception, all the actions which are commonly peculiar to the cock.

TAVISTOCK.

RARE BIRDS

SIR,—I have received several interesting birds recently; amongst others, a pair of very fine Pies from Mexico; they are *Calocitta formosa*, and I believe they are new to aviculture. They are large bluish-grey

birds, with blue wings and long purplish cobalt tails, the under parts are creamy white, a very long blue crest of recurved feathers reaching beyond the nape of the neck. As a matter of fact, I have had them since last May, and though they have done very well, they were not sufficiently good condition when they arrived for any chance of breeding them this summer. More recently I have obtained a pair of White-crowned Glossy Starlings, *Spreo albicapillus*,¹ from Abyssinia. This Starling is one of the largest of the group, and very noisy. They are of a dull oily green colour, much marked and barred with creamy white, the head pure white, a very distinctive looking bird. This species also, I do not think has been previously imported alive.

G. H. GURNEY.

ELECTION OF OFFICERS

In accordance with Rule 8, the Council propose the re-election of Miss E. Maud Knobel as Honorary Secretary and Treasurer for a further term of five years.

The Council propose the names of Messrs. J. B. Housden and Sydney Porter as Auditor and Scrutineer respectively.

The Council also recommend, in accordance with Rule 9, that The Viscountess Grey of Fallodon and Mr. Gerard H. Gurney be elected members of the Council.

¹ [*Heteropsar albicapillus* first imported in June 1926, see *A.M.*, July, 1926, p. 189. A considerable number have been imported since.—ED.]

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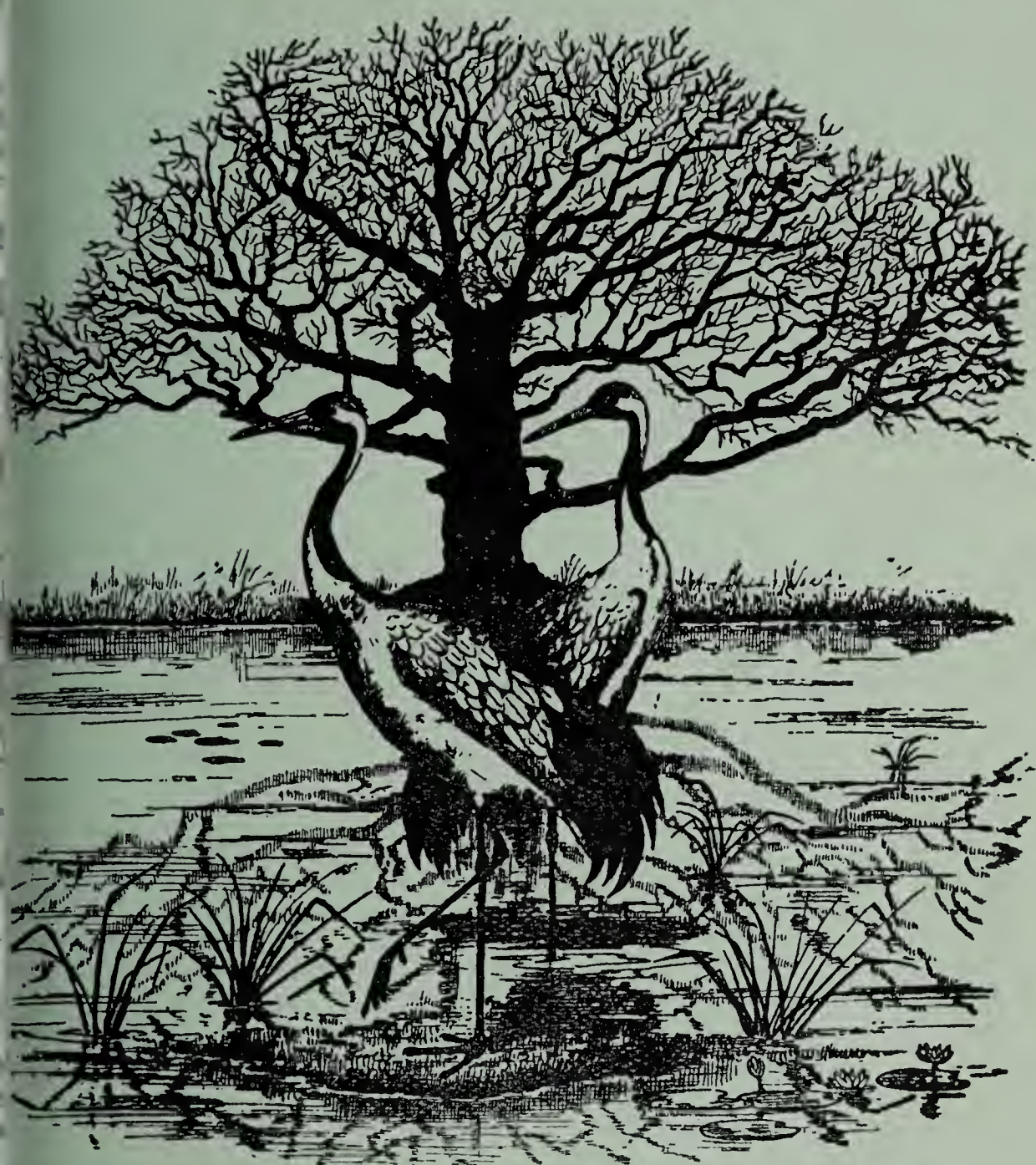
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THE Ornithological Magazine



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THE AVICULTURAL SOCIETY.

FOUNDED 1894

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The Subscription to the Avicultural Society is £1 per annum, due on 1st of January in each year, and is payable in advance. The entrance fee is 5s. The *Avicultural Magazine* is sent free to members monthly. Members joining any time during the year are entitled to the back numbers for the current year on the payment of entrance fee and subscription.

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Yellow-breasted Cissa.
Cissa hypoleuca.

THE AVICULTURAL MAGAZINE

BEING THE JOURNAL OF
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FOR THE STUDY OF
FOREIGN & BRITISH BIRDS
IN FREEDOM & CAPTIVITY

th Series.—Vol. V.—No. 12.—All rights reserved. DECEMBER, 1927.

THE YELLOW-BREASTED CISSA (*CISSA H. HYPOLEUCA*)

By J. DELACOUR

This fine bird, figured from nature in the accompanying plate, was discovered in Cochin-China as far back as 1846, but it was not until 1850 that the collection then made and deposited in the Fornis Museum was sorted out and that Giglioli and Salvadori named it; as the type specimen was entirely faded blue and white, they called the bird *leuca*, "white-bellied," an entirely wrong expression which we have better change in English into "yellow-breasted". The fresh bird, from nature, is pale Naples yellow underneath, bright grass green above, with a broad black band over the eye, black subterminal spots on the wings and chestnut markings on the wings.

In captive specimens of all Cissas kept in indoor cages with sufficient fresh animal food, all the yellow in the plumage fades to pale blue, and the green becomes pale blue, with greyish olive markings on the wings. In that state, however, the present bird looks different, and is still quite handsome. The same thing happens to skins if they are not carefully protected from all light. It seems that daylight destroys the yellow pigment, which has to be constantly replaced through the excreta derived from live or fresh food, such as insects, small

vertebrates and berries, and also that fresh air and sun is indispensable. Flesh, the proper food, is essential, and is well shown by the fact that we found wild Cissas which had faded to blue and white more or less completely on the Kontoum Plateau in South Annam, a dry and barren district which had been suffering from severe drought and fire for many months and where live food was very scarce.

The Yellow-breasted Cissa is a rare bird in skin collections, and until I obtained it only three others, so far as I am aware, have been obtained since its discovery. It inhabits the thick jungle and forest of Cochin-China and South Annam, moving about in small flocks and mixing with Drongos, Babblers, Woodpeckers, etc. They are very noisy, shy, and very difficult to secure.

For the past few years some had been kept by Dr. M. Cognacq, then the Governor of Cochin-China, in the Saigon Zoo, and last spring Dr. Cognacq brought to Clères three fine birds, which I sent to Mr. Ezra before leaving again for the Far East. As they had been over a year in captivity they were blue and white, but in perfect condition. They did very well in a very large outdoor aviary, with a heated shelter which contained other birds of similar strength, such as Starlings. Although they mastered them, they never molested them. Their song and hues, as well as their pretty and amusing attitudes, made them very conspicuous and charming. Male and female are similar, and their total length averages 13 inches. These Cissas are fed on insectivorous mixture, cut-up meat, fruit, and plenty of mice, mealworms, and insects, which they are extremely fond of and which helps to retain their yellow and green dress. The last time I saw them they were moulting and the yellow and green feathers showed distinctly among the old faded white and blue ones. They are very strong birds, and rather noisy. They had been carrying sticks about all the summer but never attempted to make a proper nest.

The three above mentioned Yellow-breasted Cissas are the first and only ones ever imported alive into Europe, or, in fact, to leave their native country.

Mr. Alfred Ezra adds the following notes :—

Mr. Delacour has already given a description of this beautiful bird.

I need say no more about its appearance. The three birds he gave me a year have done splendidly in a large aviary, and I consider them very hardy birds. They have been fed principally on insectile mixture, with some meat and fruit, and mice when obtainable. Last October I was delighted to see that the birds had moulted out in their natural colours, and instead of being pale blue and white were grass green and lemon yellow. This colour they retained right through this summer, only getting much paler by the end of August, when they started to moult again. From the few feathers they have grown so far it looks as if they will be green and yellow again. The coloured plate gives a good impression of the bird, both in its natural colours and in the pale and white state. The whole of last winter the three birds were kept in an aviary together. Last April, in order to give them a chance of nesting, I tried to sex them, and to take the odd bird out of the aviary. As all the three birds looked alike, this was no easy matter. After watching them carefully for some days, I discovered that two of them behaved rather friendly, so I caught up the third and put him in another aviary. I also emptied out the aviary of all the other birds, and the pair of Cissas had the whole aviary to themselves. The next day I found the pair fighting viciously, and thinking that I had made a mistake and put two cocks in together, I decided to separate them, but put off doing this till the evening. To my surprise in the evening I found them building in a basket I put up for them inside the sheltered aviary. They worked very hard at it, and the nest was soon finished. The outside was rather rough, but the inside was nicely lined with dry grass and feathers. On the 16th April I found one of the birds sitting the nest, and on the following day there was one egg in the nest. On the 18th I found the hen bird on the floor of the aviary, egg-bound and very ill. After treatment in a warm room, she recovered, but did not visit the nest. As it was the first known egg of this bird, I removed it and sent it to Lord Rothschild for his collection. Again, on the 28th, I found the Cissa on the nest, and on looking into it I found her sitting on two eggs. Only the hen bird incubated, but the cock sat on the side of the nest, and attacked any of us if we entered the aviary. He was quite fearless, and flew at our heads with open beak, making an awful noise all the time. The hen bird sat till the 24th of May, when I took

the eggs away and, on examination, found them both clear. Cissa was seen on the nest again on the 2nd June, and on the next I found one egg in the nest. On the 4th I again picked up the hen bound, but she recovered after treatment. On the 5th she was on the nest again, sitting on two eggs. I found two broken eggs on the floor so it looks as if these birds lay at least four eggs in a clutch. On the 16th they deserted the nest and again I found the two eggs clear. They again went to nest, and I found the hen sitting on two eggs on the 2nd July. These two eggs were also clear. After all her efforts I found the hen bird in heavy moult and in very poor condition on my return from abroad. I fed her up, but she suddenly died on the 20th September. The size of the egg is more or less the size of that of a Blackbird, which it resembles closely. A dull white with minute olive-brown spots, especially heavily spotted at the larger end. Needless to say, it was a great disappointment to me not to have succeeded in breeding this lovely and interesting bird. I have put the two remaining Cissas together in the same aviary, so far without quarrelling, but I am afraid they will be both cocks.

ROCK PEPLARS AT LIBERTY

By LADY GREY OF FALLODON

Perhaps our members may be interested to hear of the young Rock Peplars, an account of the rearing by hand of which was published in the September issue.

All three prospered, and were strong on the wing, delightfully tame and intelligent. One, when fully grown, succumbed to pneumonia, but the other two continued to thrive. They live in one partition of the aviary here at Fallodon, 22 by 25 feet in size, which they share with a pair of Kentucky Cardinals, a Rock Thrush, three Amazon Parrots, and one Grey African Parrot. Every morning the Peplars are set at liberty, and they remain out till 2 or 3 o'clock in the afternoon. These hand-reared birds fly to us readily for food and companionship, and are easily taken in to their safe quarters when we wish to put them back in security from the Brown Owls. They go at once to the feeding trays, and eat with the zest their hours of flight have

en them. When first they are released their exuberance in flight exhilarating to watch : a marvel of speed, power, and grace. They sweep past and over, it is difficult to keep them in sight. They go weaving through the green spaces of the trees, keeping in touch with each other by their call-note, and when lost to sight this little yelping note is audible quite far away over the Park, and then again suddenly far to the left over the kitchen garden and drive, such is their fitness. It puts one greatly out of conceit with cages, and I feel more convinced than ever that people might trust their birds with greater liberty than is customary because the territory instinct is so strong ; of course, always pre-supposing the point of contact with food and drink is once established and the cage or aviary, as the case may be, familiar to the birds and easily accessible.

Our Amazon Parrots have their freedom in this way, and are extremely intelligent about it. When the Rock Peplars alight on us after one of their circling flights, they look hastily to right and left, their eyes appearing not to focus on near objects at all ; but a raisin or a monkey-nut soon catches their attention, and they feed from our hands till, like a flash, they are off again. They eat hawthorn-berries and lime twigs and buds, and the daisies on the lawn and dandelion grasses ; and such is their love of water that when quite wet with rain they take an even more exuberant bath than usual.

BIRDS AT THE PRIMLEY ZOO, 1927

By DR. E. HOPKINSON, C.M.G., D.S.O.

The opening to the public of Mr. Whitley's marvellous Zoological Collection at Paignton has been a notable event of the year, not only in South Devon, but for all interested. The " Zoo " is already attracting many visitors and will continue to do so from far and wide, for not only can nearly everything an ordinary Zoo contains be seen there, but all sorts of rarer or more unusual beasts abound—reptiles, tropical birds of many colours and kinds, practically every race of domestic animals, a lot of the rabbits, and still more fowls. Two especially attractive exhibits must have special mention, " Devonshire Mary " and " The Pig ",

the first an eight-year-old Chimpanzee, who has now reached a weight of nearly 10 stone and a size and bodily development never before attained by any ape in captivity, though she is still far from adult in fact still quite a child. The second's proper name is *Dinomy* and he is perhaps the last of his race, a large guinea-pig-like animal from Peru, where his forbears were contemporaries of the Incas, and from his antediluvian looks, it might be of Noah.

However it is of the Paignton birds I intended to write, so will go on to them and give some account of the rarer and more interesting ones I saw on a recent visit, an account based on notes taken at the time, and help from the owner where these and memory failed me.

THRUSHES, etc.—One TEMMINCK'S WHISTLING THRUSH, one (or two) CHESTNUT-BELLIED ROCK THRUSHES (*P. erythrogaster*), two pairs of DAYAL BIRDS (both nesting), one RED-FOOTED CUBAN THRUSH (*Mimicichla rubripes*), and another Mocking Thrush (*Melanotis cærulescens*) in a cage in perfect condition, though it has for long been blind and must have kept perfectly well and fed itself somehow in the aviary it used to inhabit, for it was there for some time without showing any obvious sign of failing vision before its condition was discovered.

BLACK-GORGETTED and WHITE-CRESTED JAY THRUSHES, one of each share an aviary, while an adjoining one contains, among other birds, a rare and most interesting Babbler, a pale brown-grey bird like *Crateropus*, allotted to another genus, *Turdoides*. It is believed to be the only specimen in captivity.

TANAGERS.—Last year's Tanager hybrid and its parents are still alive; the mother, Mr. Whitley is almost certain, is *episcopus*. Other rare Tanagers are two *Pirangae*, not yet certainly identified; one probably *ludoviciana*, the other ? *bidentata*. Two *Schistochlamys captratus* have been in the collection for three years and were shown at the 1925 Palace Show.

YELLOW-WINGED SUGARBIRDS.—Two pairs nesting.

BULBULS.—Two of the rare Himalayan *Hypsipetes psaroides* and two species of *Chloropsis*.

FINCHES.—A perfect *Pyrrhuloxia* which mated with a DIUCA hen had two clutches of eggs, but both were clear. A really smart example of the yellow-marked RED CARDINAL mated to a normal hen; in the

the yellow markings are much more distinct and regular than in other specimens of this ? "sport" I have seen, and its owner is convinced it is a true species (or sub-species), not a freak.

Several of last year's young ROSE-BREASTED GROSBEAKS occupy various abodes about the place, and young have been again reared this year.

BLUE GROSBEAKS.—One pair of the North American *Guiraca*, rarely seen nowadays, two pairs of *Cyanocompsa cyanea*, a male which is almost certainly *parellina*, and another much larger bird with a very big beak, at present unidentified and not agreeing, apparently, with any of the described species. One BLACK-THROATED CARDINAL. Three AMERICAN BUNTINGS of three species, two with black markings (one perhaps a FIELD SPARROW), while the third has turned out to be a male *Spizella atrigularis*, a small unpretending little bird, grey with a longish tail and blackish mask, rather suggesting in shape a Bearded Tit. Has this bird been imported before? Several CARINI FINCHES. Some CAPE \times HOUSE SPARROW hybrids, bred this year.

WEAVERS.—A *Urobrachya* cock paired with a hen YELLOW-BACKED HYDAH, one MAHALI WEAVER, a cock and two hen *Melanopteryx*, two pairs *Dinemellia*, and six BUFFALO WEAVERS out of seven brought from Gambia last year; they look like two cocks and four hens. These weavers usually do not live long in captivity, though one has lived for good many years at the Zoo (the exception which proves the rule), and the survival of six out of seven indicates a triumph of management, as indeed does the condition of all the birds.

One of the new *Estrilda xanthophrys*. *Scl.* still survives. These birds came from Duidua in Abyssinia; the importer gave Mr. Whitley this information and is sure of the facts, for on this trip he lost some of his birds at Marseilles, among them other specimens of this Waxbill, which counts for the French examples from which the species was originally described last year. A pair of VINACEOUS WAXBILLS from Gambia have nested and laid several times this year, but not reared; the cock is not very fit and had a bald head, but is now in good health, and the pair is nesting again, there is hope of success.

A PECTORAL \times CHESTNUT FINCH hybrid, which was shown by Long-

lands at the Palace Show, February, 1927, is now at Paignton; it is believed to have been bred in Australia.

TROUPIALS.—An example of the extremely rare *Cassidix oryzivora*.

STARLINGS.—Two *Galeopsar salvadorii*. Last year's BURCHELL'S STARLING \times RED-WINGED STARLING (*Galeopsar* \times *Amydrus*) still alive, but the father is dead. One MALABAR \times PAGODA MYNA bred this year, and the parents nesting again. The GLOSSY STARLING Mr. Whitley has bred regularly is now considered to be *nitens*, not *sycobius*.

ORIOLES.—Three Maroon Orioles, which I saw in 1926 just after arrival almost flightless and very untidy, now in good condition and flying in one of the aviaries; they eat a good deal of milk.

BIRDS OF PARADISE.—A pair of TWELVE-WIRED arrived during my stay, which were kept, but a male RED BIRD was returned.

CROWS, etc.—AUSTRALIAN and INDIAN CROWS, one SENEGAL PIPIT (*Cryptorhina*), one CISSA, several OCCIPITAL PIES, one DIADEMED CROW, and one SUMICHRIST'S JAY. A CROW SHRIKE ? *fuliginosa* (not very common). One RUFOUS-BACKED SHRIKE (*erythronotus*) from India, one of the small BLUE FLYCATCHERS (*Cyornis*), one pair *Phainopepla nitens*, and one TOWNSEND'S SOLITAIRE.

MOTMOTS.—Two, apparently belong to two species.

ROLLERS are quite a marvellous feature. A pair of *caudatus* nested, five eggs laid, four hatched, one died next day. I saw three about fortnight old, but Mr. Whitley wrote that one died soon after, and that he did not think he would rear the others as they were weak and had undershot beaks, which he attributes to the cock's poor condition from persecution by his mate earlier in the season. Fighting among themselves seems the great difficulty with Rollers, though they are usually harmless to other birds. The four old BURMESE ROLLERS (*affinis*) which came in 1923, are still alive, including the half-beaked hen; she laid and sat again this season, but "incubation was terminated by a family squabble, in which the hen got the worst of it".

One *indicus* an odd *caudatus*, and a pair of *navius* complete the Roller list; the last were sitting, but on clear eggs.

COLIES.—Two pairs (probably *erythromelon* = *indicus*).

TURACOS, SENEGAL and DONALDSON'S. Examples of both *Gallinula chlorochlamys* and *porphyreolophus*, which Mr. Whitley thinks are the

ne; at any rate pinkish feathers were showing on the neck of the
st when exhibited at the 1927 Palace Show and are still there.

A single GREATER ANI *Crotophaga ani*, one of the various unique
ge-birds of the collection.

BARBETS.—Two *Cyanops caniceps* occupy neighbouring cages and
e always ready for a mutual scrap, if allowed.

PARROTS.—WHITLEY'S CONURE paired up with a PATAGONIAN.
e pair PETZ'S CONURE. A pair of BLACK-HEADED have young in
e nest.

One pair HYACINTHINE MACAWS, which take great interest in and
eatly interest visitors, one pair LEAR'S, one pair RED and GREEN
oloropterus), one each of the BLUE and YELLOW, the RED and BLUE
acao), and ILLIGER'S, a pair of SEVERE, and a pair of SPIX'S.

More than a dozen species of AMAZON, the rarest, Mr. Whitley
nsiders, being the little *xanthops*, but one of the most interesting is
ertainly a red-backed Amazon midway between *festiva* and *bodini*;
has no blue cheeks and no black scallop-edges to the nape feathers,
d is exactly depicted in one of the two plates Reichenow gives of
dini, explaining that the first was incorrectly coloured. Whether
is was so or not, there are now three red-backed birds to be seen
Paignton, each equally distinct from the other, and exactly represent-
g the three plates in Reichenow.

Three or four species of *Pionus*, including the yellow-billed *maxi-
iliani*.

Pæocephalus.—One very tame *fuscicollis*, two years old, with the
ery-red anklets and shoulders of the adult but with the pinker red
the head, which had disappeared and which I always thought a
gn of babyhood, increasing again from the forehead backwards.
ARDINE'S and AUBRY'S, one of each; two hen *rufiventris*, one of
hich mated with a SENEGAL had fertile eggs; one *fuscicapillus*
so mated with a SENEGAL; four *flavifrons*; the yellow on the head
these birds is very variable, and changes with age.

Mr. Whitley pointed out that all the *Pæocephali* have racket-tails
th short but distinct shaft-filaments when the feathers are new.
GREY PARROT shows the same to a less extent.

Two *Dasyptilus pesqueti* arrived from Mr. Goodfellow; one has

only a suspicion of the red ear-mark. The red so much suggested *turacin* that we tested it with alkali, but it was not soluble.

VAZAS.—*vasa* and *nigra*.

One HAWK-HEADED PARROT.

LOVEBIRDS.—ROSY-FACED breeding freely for the last three years second generation. BLACK-CHEEKED and NYASA, both breeding, as well as hybrids, which come true to type—intermediate between the two parents. Some of them were shown at the Palace in February 1927. Several MASKED LOVEBIRDS.

One *Psittinus incertus*, several *Eclectus* and *Tanygnathus*, including three *T. everetti*, one ALEXANDRA PARRAKEET, a hen, for whom a mate has been long sought in vain.

Most of the Broadtails, mostly paired for hybrids; BARNARD'S × YELLOW-NAPED have been bred, MEALY × BARNARD'S and MEALY × ROSELLA, the last two being new successes. YELLOW-BELLIED × ROSELLA hatched but did not rear.

BUDGERIGARS.—Blues breed freely and produce fine birds. Blues always breed true; one very interesting brood reared was five young, of which two were Cobalt, one Sky-blue, and two Green from a Cobalt cock and a Blue-bred Green hen, whose parents were Sky-blue × Green.

A lovely pair of SWIFT PARRAKEETS.

COCKATOOS.—A GREAT BLACK COCKATOO, a recent arrival and I suppose the only one imported in recent years.¹ Two other BLACK COCKATOOS, one *stellatus*, the other (with pale yellowish ears) *funereus* or *baudini*, if the latter probably the first to be imported to England. Twelve species of *Cacatua*, that is all but, *hæmaturopygia*, *ophthalmica*, and *sanguinea*. A pair of *Licmetis*.

LORIES.—A pair of RED LORIES, one BLACK-CAPPED LORY; eight VARIED LORIKEETS (*versicolor*), one MASSENA. RED-COLLARED breeding; two reared, the second generation, this year. One hybrid FORSTEN'S × RED-COLLARED bred this year on the wing, and another in the nest.

HORNBILLS.—A pair of magnificent ABYSSINIAN GROUND HORNBILLS and a single S. AFRICAN (*cafer*).

PIGEONS.—A newly arrived (and probably new) pair of FRUIT

[¹ This was written before Mr. Frost arrived with no less than nine.—Ed.]

GEONS from Malaya (*Osmotreton*); two species of GOURA (*coronata* and *sclateri*). NICOBARS have bred, rearing one young one this year. Three Turtledoves need identification; two have the neck-rings half black, half white.

Last year's young ROULROULS, the first success, are still alive, but the other has unfortunately died. Another success with a gamebird, eleven young reared from a pair of the rare and only recently imported ARABIAN REDLEG PARTRIDGE (*Alectoris melanocephala*).

TWO RAILS from South America (probably *L. sanguinolentus*) bred this year, and the two young were fully reared and the parents had laid again and hatched by the middle of August. Both the nests were high up, the first on the top of a big bush close to the wire covering the aviary, a most un-Rail-like nest and site.

I may conclude with a reference to another extraordinary nest, which I forgot to mention in the proper place; this is the GREY TRUTHIDEA'S, a large structure of mud with a vertical column placed on a strong crossbeam. The two birds have been making this sort of nest for two seasons, but never produced eggs, so are probably of the same sex. A third bird has recently been obtained which next year will be given a chance. At present it is in the adjoining aviary and taking an intelligent interest in all that its neighbours do.

BREEDING THE BLUE TANAGER

By THE REV. R. B. ABEL

I procured my pair of Blue Tanagers (*Tanagra cana*) from Mr. Chapman in January, 1926. After a month or so, when their plumage was in condition, I let them into my outdoor aviary, where they have been ever since. I note this to show the hardiness of the birds. All last winter they roosted in their usual corner in the open shelter. On 16th March this year I noticed them building in a box with half-open front in the shelter. Soon after they ceased owing to bad weather, but resumed operations on 6th April. They then went ahead and built a complete nest of dried grass, wood shavings (used for packing), a few feathers, and a little cow-hair. So the nest remained for several weeks carefully guarded by the pair but egg-less. About the

beginning of June they forsook it and began building in the next box. This time I thought it advisable to give a little assistance, and put a rush cup-nest in the box. They apparently appreciated the attention and completed their nest, and adorned the entrance with a substantial tuft of wood-shavings. By 15th June I felt certain the hen was laying. On 16th June I took a peep; there was one egg. I dared not stay to measure it, but it appeared to be $\frac{7}{8}$ in. long, not very pointed at either end, dull white, marked pretty evenly with purplish-brown spots and splotches. Whether my visit was the cause or no, that was the only egg laid. I dared not look again for some time, but I judge the period of incubation to have been about fourteen days. At any rate, by 28th June the parents were clearly feeding young. About ten days later I took another peep, and saw the young bird covered in blackish down. It left the nest on 19th July, and received its first lessons in flying, to the amusement of the other inmates of the aviary. In appearance it was duller and, of course, much smaller than the parents. They fed it assiduously for some weeks on mealworms, banana, lettuce, soft-bill mixture, and, when I could get them, fresh ants' eggs. It is now a strong lusty youngster, well able to take care of itself, but still following the parents more or less and roosting near them in the old corner. The wing feathers are now growing brighter with something of the glorious blue sheen of the old birds.

Two further facts I should like to mention. My Blue Tanagers were the shyest birds in an aviary which contains some forty birds of various kinds. In this company they successfully nested. Furthermore I made friends with them over the process. When they were feeding the young bird they came to my call for a mealworm, and still come. The other thing is this. They were assisted in the feeding business by an odd cock Crowned Tanager, who dodged up to the nest with rations whenever the parents' backs were turned. Often he was caught by them in the middle of his unsolicited attentions and ruthlessly driven from the scene.

May I mention also that my Brown-shouldered Meadow Starlings have had two nests, and in the second instance reared a youngster till it was half-fledged.

A SHORT ACCOUNT OF THE OWLS AT WARGRAVE

By E. MAUD KNOBEL

Having spent a most delightful week-end with Miss Chawner at Thatched Holme, Wargrave, and seen Mr. Spedan Lewis's wonderful collection of Owls, of which Miss Chawner is curator, I think perhaps my note in the MAGAZINE will be of interest to some of our readers. The aviaries are built on three sides of a quadrangle, the quadrangle being large enough to contain a full-sized tennis court, and a fairly large greenhouse for Alpine plants. There is room in the house for the more delicate species. I do not suppose in any other part of the world there is such a unique and splendid collection of Owls—there were at the time of my visit 113 individuals, comprising thirty-three different species. There seemed every kind of Owl, certainly "more than dreamt of in my philosophy", but, then, I do not know much about Owls. There were great big fellows and tiny little pigmies that would go into the palm of one's hand, and they came from every clime—from the tropics to the Arctic zone. I have always been under the impression that Owls could only see in the dark and therefore only came out at night; that during the day they either lived in a hole in a tree or in the eaves or rafters of a barn, where they slept quietly until it was dark enough for them to venture out. Great, therefore, was my surprise to see these Owls not only enjoying daylight, but sitting in the full glare of the sun, many of them enjoying a real sun bath with wings outspread and lying down on the warm stump of a tree to get the full benefit of the warmth, also being able to see and take an interest in all that went on around them. Another surprise to me was to find them such tremendous bathers, splashing about in huge pans of water and getting thoroughly wet through.

Out of such a collection it is only possible to mention one or two.

The biggest was the Eagle Owl, erroneously, I think, called "the Turk", for a tamer bird it would be hard to find. He followed Miss Chawner about like a dog, and it was quite difficult to get out of his aviary without his coming also. His plumage was tawny and black,

white under the chin, and he had long ears and huge feet and talons well feathered up to the toes. His eyes were of that wonderful deep orange that belongs to some of the Owl tribe. Unfortunately he had a badly dropped wing, but in spite of this handicap was learning to fly from perch to perch.

The most beautiful to my mind, and also one of the rarest in the collection was the little Hawk Owl from circum-polar regions. A really exquisite little creature, with a coat of light and dark grey both spotted and barred, the barring being specially noticeable across the breast. It was about the size of a Pigeon, and more like a Hawk than an Owl. It is really a day bird, and has pale yellow eyes. Another charming Arctic Owl and also a rarity was Tengmalm's, very similar in colouring to the Hawk Owl, but considerably smaller. There were two of these but unfortunately they would not agree together, probably on account of sex. Perhaps the tamest in the collection was a White-eared Scops which just loved to be petted and made a fuss of—a very unusual thing in birds of this group. But what fascinated me most were the Urals Owls from the Mark of Finland. There were six of these, all young birds of the year. Two were very tame, one specially so, coming to Miss Chawner and playing with her gloved hand like a kitten. The first rejoiced in the name of "Black-eyed Susan". The other was a most daring bird and, having taken Miss Chawner's hat off her head and carried it up to a rafter, had earned for himself the name of "Terrible James". They were delightful birds, and I was immensely pleased when they eventually came on to my hand and allowed me to play with them. Their colouring is composed of shades of dark grey with dark brown bars, and their faces are like a baby's with a granny's hood round the face. They have most beautiful dark blue-brown eyes, and the feathers on the face are so fine that they are more like hairs than feathers.

It is quite impossible to describe in a short space all I saw. I can only hope that perhaps some day other members of the Society may see and enjoy for themselves what is a most unique collection.

ON COLOUR BREEDING IN BUDGERIGARS

By MAURICE AMSLER, M.B., B.S., F.Z.S.

Our Editor has published one or two notes on the abnormal coloured budgerigars, in which there has been such a boom during the past year or more. Though not posing as an authority, I have had a certain measure of success in breeding for colour during the past few years.

I am not at all certain that this is really a subject which should be written on or discussed in a magazine such as the *AVICULTURAL*, which is purely scientific and not a publication for "fanciers".

I started Budgerigars with Blue-bred Greens some years ago, and after breeding from these for a couple of years with no more encouraging results than young Greens, I parted with the whole lot; some eight or nine birds going to Mrs. Chatterton. I fancy these were all hens; from these hens, paired to Blue-bred Green cocks, which she purchased, I believe, from Mr. Marsden, she has, as most people know, bred Whites, Blues, Yellows, and, of course, Greens.

I then started with two pairs of Blues, and from these birds, with very occasional fresh Blue bird for new blood, I have during the past four or five years bred some hundreds of Blues.

I think it may safely be said that with Torquoise-blues—Blues always breed Blues—the exception to the rule must be extremely rare and can be taken as negligible—the same does not apply to Cobalts, which I suppose must be considered a less fixed type. I have at the moment a Green cock *both* of whose parents were Cobalts. Last month I bred a Green bird from a Torquoise-blue hen and a Cobalt cock. The same nest contained two Blues and three Cobalts, as I have already stated a Green chick is a *very* rare occurrence when both parents are of the ordinary or turquoise-blue colour.

The following notes are not of outstanding interest, but go to prove that although it is worth while working on definite lines, results cannot be guaranteed, and that there is no rule-of-thumb in colour-breeding. Having one small heated aviary in the end of my greenhouse, I decided to start breeding early last January. Even with heat there is a distinct risk of egg-binding if one starts too early, so I put up four blue-bred Green hens and paired them with four Blue cocks. I got

two nests from each pair, some thirty young birds, before the cocks were transferred in May to their rightful Blue hens. Among all the young there was not a single Blue—but I did get two Yellows, which I greatly prized, and rightly so, as will be seen later.

Having one or two extra Blue cocks, I allowed one of the adult Green hens to continue breeding later in an outdoor aviary. In the second nest she produced three Blues and one Green, and at the present moment she has five young, of which two are certainly Blues. This goes to prove that it is not wise to turn down “a pair of birds if they do not produce what is expected and wanted on the first occasion.” In July I paired one of the young Yellows (a hen then five months old) to a Blue cock. I hoped to get a white, but the result was two Blues and a Green.

I then gave her another Blue cock, and she has now two Whites and a Blue, which is exactly what I expected and wanted. I think that it is unwise to introduce the ordinary Lutino or Yellow Budgerigar into one's strain—but if a Yellow is produced from Blue or Blue-bred parents, it should be carefully preserved and bred from.

I have bred from several of this year's early-bred birds, and have got some good youngsters from these young parents, but I must also admit that some of the offspring have shown signs of “French moult”—in varying degrees—whereas I have not had a single case among some hundred birds bred from adults this year.

A few more statements of facts may also be of interest, if they only give rise to opposition or discussion. There is little doubt, I think, that even given the requisite abnormally bred or abnormally coloured parents, it is more difficult to obtain young from these than it is from common Greens. As proof thereof, when I was breeding from the Green hens in my heated aviary in January, I also put in a Blue hen paired to a Cobalt cock, the former died with her second egg. A Green Blue-bred hen paired to a very fine White cock gave me clear eggs, as did also a Cobalt hen paired to the Green cock previously referred to, which was the offspring of two Cobalt parents. Some of these birds retrieve their reputation later in the season; the Cobalt cock has fathered three nests and, paired to a Blue hen, has produced eight Cobalts, ten Blues and one Green.

One of the Green hens which produced two nests of Greens January to March has since then given me 50 per cent of Blues bred to the same Blue cock. A young White hen, which came to me in exchange for the White cock previously mentioned, laid a clutch of white eggs from which she reared two Blues, one of which was motherless—her mate was a Blue; she is now sitting on her last clutch for this season, of which the eggs are quite normal in size.

November 10. These four eggs were put under a common green hen who hatched and brought off four vigorous young blues.

In the absence of a white cock I should, I think, have done better if I paired this white hen to a blue-bred yellow cock.

Since writing the above I have had quite a number of ill-feathered youngsters in the third nests from my adult pairs and I am writing a few notes on this so-called French moult which the Editor has kindly consented to publish.

BIRD-CATCHING IN SENEGAL

By DR. E. HOPKINSON, C.M.G., D.S.O.

Dakar, the chief port of Senegal, is the headquarters of the export trade in the small ornamental Finches commonly called "Senegalis". These include the Waxbills, Firefinches, Cordon-bleus, and Lavender Finches, and besides these a good many larger seed-eating birds are caught and exported—Weavers, Whydahs, Combassous, Singing Finches, etc. These, or selections of these (according to season), form the usual contents of the catchers' cages, though odd rarer birds may occasionally be found there, but not very often, for these comparatively common ones are those which are not found as a rule in flocks and therefore are not to be caught wholesale, and the African, preferring quantity to quality, wants a good return for every pull of his net. Such rarer birds include Aurora Finches, Spotted and Vinaceous Firefinches, and Ring-necked Pigeons, the last once very common, but now, for some season, only infrequently seen either wild or in the cages. Nowadays, one may towards the end of the rains see cages full of the Yellow Weavers (*Hyphantornis*, etc.), mostly cocks in colour.

A bird-catching party consists of two or three men, each with a

cage and two or three nets like our clap-nets, but very much smaller (about 8 by 2 feet), and used singly. The cage is an ordinary packing-case, about 3 by 2 by 2 feet, with a wire netting front and a sliding door in the top, and a wooden water-trough which slides from the front along one side of the cage and runs its whole depth. Perches parallel with the front, a great number—often forty, in lines occupying the upper three-quarters of the cage, and many, therefore, one above another—complete the equipment; they are fixed in holes drilled in the ends of the cage, and are cut longer than the cage to facilitate their withdrawal when it is wished to catch up the birds. There is no drawboard, and therefore no means of cleaning the cage while inhabited, but this does not matter much in the dry climate of Senegal (i.e. in the dry season), and the big door in the top allows good scraping every time the stock is sold which, if things go well, should be about once a month. The whole lot with the nets, a small grinding mill and perhaps a cooking pot, forms a cumbersome but not too heavy head-load.

In recent years great changes have, of course, occurred everywhere and in everything—bird-catching even has been affected, and here, as in many other things and places, the change has not been for the better.

I am speaking of the Gambia, where for more than twenty-five years I have lived (with yearly, or nearly yearly, leaves home), and where I have seen the catching of, and often also caught and brought home, these birds. The Gambia Colony and its Protectorate is the River Gambia and a narrow strip on each bank, running for about 300 miles right into Senegal and providing easy means of transport into the interior, for ocean-going steamers go up for nearly 200 miles and local "cutters" and launches as far as our eastern boundary. Gambia and the adjacent French territory to the north used to be the favourite hunting ground, owing to its nearness to markets, but nowadays Gambia is less frequented and the catchers work along the new French railway which runs much further east than does our Gambia.

Twenty years ago and earlier the catchers came from some sort of clan of their own, and the "profession" was obviously a closed one; they were generally Senegal Fulas, of low caste apparently, for the

ere certainly looked down on by everyone else, but they *could* catch birds, and, what is more important, *could* keep them alive and in good condition after catching.

A party would start operations from home and, moving about every three or four days, travel slowly along till their cages were full (400 birds was the object), and they had reached the place where they could sell their catch. This was either Bathurst, one of our up-river trading places, where they sold direct to certain captains of steamers which came there to load ground-nuts, or at one of the French nut-buying centres along the Dakar railway line, then only reaching about 100 miles from the coast. New hands I suppose had to find good places for catching, but all the catchers I knew had learnt this from previous visits; they set the nets and began catching the first day, simply putting them down early in the morning, baiting with a little seed and plenty of millet-husks from the pounding-places, leaving them untouched till the afternoon and then getting a catch. Sometimes they would set at a drinking place, but this was mainly for Weavers, and at the end of the season proper or when they wanted Pigeons, etc. They did not consider the results good enough to justify the spoiling of the nets by the water, and therefore dry sites were the rule, clearings in the tall grass either in or near the millet-fields or on the dry swamps, orange-cheek and Zebra Waxbills being the commonest bag in the last. Three pulls a day was the rule, four exceptionally, as during the hot mid-day hours there is nothing doing in the bird-catching line. One does not wonder therefore that they like as many birds as possible per pull and take but little interest in birds which can only be caught one-one". Soft-bill birds (except for an occasional individual who went for Glossy Starlings) they never troubled about, and any misguided bird except a seed-eater who got into the nets went into the pot, even the over-bold Hawks, which so often spoil (*experto crede*) a good chance.

As they travelled along the catchers lived in the small villages of their friends and fellow-tribesmen along their road, and avoided the bigger places, where they got plenty of abuse but little chance of food for themselves or their birds. Among their friends they were able to beg the seed for the birds and their own meals, or barter for it any

Doves or Sand-grouse they had caught, and every self-respecting catcher had one old net which he set at a water hole simply for that purpose. They fed their birds on millet ground-up in an ordinary coffee-mill with the addition of "findo", a small grass-like cereal whenever they could get it. Our millet in its ordinary state is too hard for Waxbills and the like, though Weavers, etc., husk it easily, but even these do better if given it ground. This grinding was done twice a day, at daybreak and again after mid-day before the men started on their evening round of the nets. The water troughs were filled at the same time. The birds, therefore, had plenty of quiet time in which to feed, the essential thing with fresh-caught birds. In spite of the primitive cages and the constant travelling, the birds did well in capable hands, and I learnt a lot of useful tips about the business from these people. My experience is that with proper food and average care the mortality is very low, ridiculously low compared with what used to be the case with English birds; two per cent I should think was about the average mortality while in the catcher's cages, say for about a month. What was the rate among fresh-caught Goldfinches at home? Fifty

Such was the case under favourable circumstances, and I have often got lots of birds all the way to England with the same success, my best effort being with three dead out of 400 odd from day of catching in Africa to arrival in England two months (at least) later. That is not likely to be repeated, but I have often got other smaller lots home with almost as good results, and, of course, there have been times when things have not gone well and the death rate been really too high, but then, thanks to 'flu, etc., we at times suffer from that sort of thing ourselves. Why this is so I have never been able to discover. All my birds have always come in July, at the best season, and to a large extent appearances everything, weather, shipment, length of journey, etc., has been the same in every case, good or bad. Our old catchers' birds did just as well, if they got into the hands of exporters who also understood them.

Nowadays all is altered. Up to about the war things were as described, but now, owing, I suppose, to the greater demand for birds and their decrease in the more accessible districts, things have been speeded up, have "advanced" (Progress with a big P), and Ford cars

ways and other results of Progress and advancing civilization have opened up wider circles of possible catching and much shortened the time between catching and export, so that the birds, as some one recently put it, get to Europe "before they have time to die". This may be so or not, but they are now hustled along so quickly and have to be breaking-in to cage-life before shipment, that I should have expected the dying rate would exceed the journey speed. In any case, there is no doubt that these birds do not as a rule arrive in the condition they are used to.

The bird-catchers themselves have changed, and I believe also the buyers at the ports. Of the first, instead of the "select" few of the old days, who caught only in the dry season, January to May, and waited for the rains at their proper job, that is on their farms, we now may find any scallywag who is out of work, or thinks he has found a soft job, trying his hand and at all seasons. A dozen or so will get to work and set their nets anywhere where they see birds, even close to the towns where Firefinches, formerly sacrosanct as guests of the town, and Cordon-bleus, and Combassous can easily be caught. In about a week their cages are full; they are then bundled on to a lorry and hustled to the selling place with all speed. None of the old leisurely progress giving plenty of time for the captives to feed and get accustomed to cage-life; haste and quick delivery instead. Most of the present-day catchers, too, know nothing about the birds and their care, and for their food simply throw in millet uncrushed and expect that to do for all—to do well enough at any rate to keep the birds alive till they can be got rid of to the big buyer. It does not do, and hence more deaths. Besides, catching now goes on at all seasons, for now that big liners come from South America put into Dakar, the dealers there have found that they can sell at big prices cages of bright-coloured birds to the passengers, and one sees there cages of Weavers (*Pyromelana*, *Quelea*, and *Hyphantornis*), Whydahs (Pintail and Paradise), Cordons, and Firefinches, all in full colour, from about August to November. These, of course, are caught during the rains, the period of full colour, and at the best are unlikely to live, for at that time they live so largely on insect food and soft unripe seeds. The change to hard seed, especially uncrushed as supplied to the purchasers, is impossible, and in addition

most arrive in our cold weather, so that total loss of a whole cageful is almost the rule. Bird-catching in West Africa is foolish after M unless you have a foolish buyer on your doorstep, and even then wicked. During the dry season, January to May, I can see no more harm in it than in catching at home, or as a matter of fact than in shooting, hunting, etc., or even eating butchers' meat.

The names used by the catchers are of some interest, for most are sort of slang words, more or less French, more or less Joloff or Fula. Most of them are of long-standing usage, for bird-catching has been going on here since the end of the eighteenth century, at any rate. "Kumbasu," for instance, is as old as Vieillot's time, his "L Combassou" being *Hypochera chalybeata*. Other names are:—

Firefinch, "Senegali."

Orange-cheek Waxbill, "Lorange," "Loranjeu."

Common Waxbill, "Rouge," "Roujou."

Cordon-bleu, "Beu," "Petit bleu."

Zebra Waxbill, "Sorass."

Lavender Finch, "Sévori."

Mannikins, "Nonne," "Nonnette."

Whydahs in colour, "Pfaff."

Weavers (*Pyromelana*) in colour, "Kardenau" (= Cardinal).

Yellow Weavers (*Hyphantornis*, etc.), "Katcho."

Out-of-colour Weavers and all other plain-coloured birds are classed together as "Kenen yi" (the others), or "Pitcha yu dai" (= dirty coloured birds), a collective name very much the same as that I have sometimes heard at home for such birds, especially as "dai", like our word, means "dirt" of all kinds.

BREEDING THE HERMIT THRUSH

By MAURICE AMSLER, M.B., B.S., F.Z.S.

On the occasion of my last visit to our late and much lamented President, Mr. Hubert Astley, we were talking about his pair of Hermit Thrushes (*Hylocichla guttata*), which I believe he obtained through the New York Zoo. He then said that if the cock did not shortly begin to sing he would let me have them to try my hand at breeding them.

To the great sorrow of every aviculturist, Mr. Astley died within a month, and through the generosity of Mrs. Astley the birds came into my possession in May, 1925. The hen was not in perfect plumage on arrival, but improved after being in an outdoor aviary for a few weeks. The cock, though in good condition, never uttered a note; a few straws were carried during the summer, but no serious attempt at nesting was made.

Not knowing how hardy these birds might be, I caged them up in the autumn, and a few weeks later the cock, who had for some time exhibited a queer quivering movement in one leg, died in convulsions.

My chagrin at this was very great, both because of the bird's origin and also because I did not think it likely that I could ever replace him.

Much to my surprise and delight, I received a letter from Chapman in March, 1926, offering me another cock of this species. I, of course, took the bird, which proved, indeed, to be a male. The sexes are absolutely identical and, as they fight like Gamecocks, whether they be pairs or like sexes, during three-quarters of the year, I was only able to determine the sex of this last bird when he began to sing a few weeks later.

I discovered subsequently that this cock came from Captain Stokes, and that it was through him that Chapman knew I was wanting a male of this species.

The two birds were turned out in April, 1926, and were inclined to quarrel, but not seriously. Towards the end of the month the cock began to sing, and continued this throughout the summer months. In May the hen carried a few fibres, but did not build properly, and the two birds may be said to have led entirely detached existences. There was none of the devotion seen in true Thrushes during the breeding season, when the cock collects and gives every dainty he can find to the hen.

Thus, another breeding season passed with nothing achieved beyond a great deal of singing of a somewhat monotonous quality.

The following autumn and winter were spent in the same aviary, which has a good shelter but no heat.

In the early spring of this year there was some bickering between the two birds, which by degrees became so serious that I had to put

the cock into an adjoining aviary whence he could see his wife but could not molest her.

During the middle of March I replaced him with the hen, and a state of armed neutrality was established and maintained. The male began his little song in April, and this was continued from dawn till dusk throughout May, June, and July, until the hen began to sit, when he became completely silent.

On 13th July my man informed me that the hen Hermit Thrush had built and laid one egg. I did not look into the nest, which was placed high up in a small open box about 4 inches square, but I was not at all happy to see her carrying fine grass and coconut fibre after she had begun to lay. This was something abnormal and irregular, and boded ill for the future. On the following day I looked into the nest and found a very neat structure, cup-shaped, and lined with very fine grasses and fibres. It contained one small egg, which I just glanced at and did not touch. For a couple of days building went on, and then the hen spent most of the day on the nest. I took the opportunity of her being off to look into the nest again. I found one beautiful elongated "Starling-blue" unspotted egg, and the other which I had previously seen. The latter I removed and examined. The hen's behaviour was then explained. She had taken possession of and relined the nest of a Siberian Bullfinch, which had built and laid one egg without my knowledge.

Another egg was laid on the following day, and this completed the clutch.

During the time of laying and the early part of incubation was the only time when an onlooker would have suspected any association between the male and female. The former was usually dancing attendance on his spouse, and was frequently seen to give her gentle but friendly pecks, quite unlike his behaviour in the early part of the year. Incubation began in earnest on 17th July, and lasted until the 29th. During these twelve days the hen was only seen off the nest for a few minutes on two or three occasions, and as far as I know was never relieved or fed by the male.

There was nothing distinctive about the two squabs during their early days. The first two days they were constantly brooded by the

and, after which both parents took their share in the duties of feeding.

During the first few days ants' eggs only were used, and mealworms entirely disregarded, I suppose, on account of their size. At the end of six days, mealworms, a few small earthworms, and quantities of well-scoured gentles were used, and all seemed to be going well from what one could see from below, but on 7th August I found one of the chicks in a fairly "high" state of decomposition, on the ground, 6 feet from the nest. It was well feathered and looked much like a miniature Hermit Thrush of about ten days of age.

My chances of rearing this species, already slender, were now halved, and I have to thank the male parent for any success which I may have recorded, for from this day onwards the hen seemed to lose all interest in her family, and the whole duty of feeding devolved on the male, whose time was fully occupied in collecting live food for the remaining chick and chasing the hen away from the much coveted contents of the re-bait pan.

On 11th August the young Hermit Thrush had left the nest. He was at least thirteen days old, but looked as if he would have been the better for another two or three days in the nest.

Compared with his parents, he was very dark in colour; the back, wings, tail, and head were a dark lead-grey instead of the bright cinnamon-brown of the adult. The upper breast was a similar colour. The sides, the crown of the head, and mantle were flecked with numerous spots of light buff. The lower breast and abdomen were a dirty white, with no markings of any kind.

The weather about this time was so atrocious that I expected each day to find him drowned, but although he persisted in staying in the outside flight, notwithstanding the fact that I often drove him into the shelter, he seemed to have the sense to find spots on the ground where he was more or less sheltered from the rain, and there he was constantly looked over and cared for by his father, who, like most parent birds, always seemed to know the exact whereabouts of his offspring, though frequently hunted around and could not find him. It is interesting to note that the male began his little song again on the very day the chick left the nest.

On 16th August the young bird could pick up food and could fly quite strongly, though he still spent most of his time squatting under bushes or other plants.

A day or two later I found the young bird *in extremis*, and on picking him up discovered that he had attempted to swallow a dead bloom of the day lily (*Hemerocallis*). This flower was about 4 inches long and the thickness of a lead pencil, and he had very nearly gorged the whole. I was able to extract it, and a few moments later he seemed none the worse.

On 13th September the youngster was as large as his parents and almost indistinguishable from them, but his general colour was still a little darker than either of the adults and he still showed the buff spots on the crown of his head and the upper mantle.

I believe and hope that it is the first occasion on which this species has been bred in captivity, for I feel sure that had they not unfortunately had to change hands, Mr. Astley, who was a past-master at breeding the genus *Turdidæ*, would have succeeded sooner or later in doing what I have taken me two years to achieve.

BREEDING THE BLUE-RUMPED PARROTTLET

By MRS. G. K. GODDARD

About eighteen months ago I purchased from Mr. Hedges a pair of Blue-rumped Parrotlets, *Psittacula cyanopygia*. These I turned into a large outdoor flight, with some Nyasa and Black-cheeked Lovebirds. In the centre of the flight I have a small house in which I put their food and water, but the nest-boxes hung around the sides and at the ends of the flight, the only protection being some felt on the outside of the windows to keep the rain off. For months the boxes were only used by the Nyasas and Black-cheeks, the pair of Blue-rumps roosting in the house. One day, about the middle of August this year, I missed the little hen, so watched closely for several days, when suddenly I saw her emerge from one of the boxes. On looking inside I found three eggs. The nest was made with a few pieces of dry grasses and old millet sprays, and in the centre were many green feathers, plucked from her breast. On 5th September the first egg was hatched. On 13th October the first

chick left the nest fully fledged, and they are now strong on the wing and flying about in the aviary, but go with their parents into the house to sleep. Two are all green and show no blue, and I conclude these must be the hen birds, as the third chick has a blue rump and the wings show blue underneath. The blue is a bright turquoise and very lovely (but not very visible when the bird is in flight).

I should much like to know if there is any previous record of these birds having been bred in captivity?

LOVEBIRDS

By MRS. A. A. PRESTWICH

(Continued from p. 235)

AGAPORNIS LILIANÆ

Recently so much has been written by members on the Nyasa Lovebird that it is almost impossible to throw fresh light on the habits of this interesting species. The excitement caused by the first arrivals, the rapidity with which they settled down and commenced breeding operations, and the subsequent "first" success of Captain Stokes, are all still fresh in the memories of lovers of the *Agapornes*.

Mr. Seth-Smith gives a very complete account of this species in the AVICULTURAL MAGAZINE, 1926, pp. 53-4.

AGAPORNIS FISCHERI

Little seems to have been recorded concerning this rather sombre coloured Lovebird, figured somewhat indifferently in the AVICULTURAL MAGAZINE, July, 1926.

Until last month only one living example had ever reached England, and that only stayed a few days before continuing its journey to America. Now, thanks to the enterprise of our member, Mr. Chapman, several consignments have arrived. It is to be hoped that those members who obtain specimens will not fail to make known their observations.

First discovered some forty years ago by Dr. G. A. Fischer, and described by Dr. Reichenow in the *J.F.O.*, 1887, p. 54.

Concerning this species, Dr. Emin Pasha, C.M.Z.S., who was assassinated in the Upper Congo in the autumn of 1892, writes:—

“*Agapornis fischeri* is a noticeable bird of this country (Ussongoro). One seldom traverses the woods here without a pair or a small party of three or four individuals being met with, which utter delicate screams not so piercing as those of *Agapornis pullaria*, as they fly high up with a whirring noise, and in a straight course. These Parrots also frequent the ground a good deal. In the crops of shot birds I have found fine grass seeds, which must have been picked up from the ground, as there was no upstanding grass anywhere about.” (*J.F.O.*, 1890, pp. 338-9.)

AGAPORNIS PERSONATA

The Masked or Yellow-breasted Lovebird is undoubtedly one of the most beautiful members of a very attractive genus. First discovered by Dr. Fischer at Kibaya in Masailand and described by Dr. Reichenow in *J.F.O.*, 1887, p. 55. Until recently extremely rare, only three specimens having reached England, en route to America, in 1925; it is now quite plentiful and is proving an excellent aviary bird. It remains to be seen how it will stand the winter outdoors, but there is no reason to suppose it will prove less hardy than *A. nigrigenis*.

The sexes would appear identical in plumage; the shape of the head, however, is a sure guide in sexing. They are quite friendly disposed to one another in an aviary, but some seem very quarrelsome in confined space.

Mr. K. V. Painter, of Cleveland, Ohio, was successful in breeding from the three birds already mentioned. According to our Editor *Parrakeets*, p. 281, Mr. Painter writes that his three birds were put in a large flying cage of which the inside part was about 14 feet square and 10 feet high, with an outside flight of about the same size. He had no idea of any young ones coming until they suddenly appeared from the breeding boxes; “full grown and almost in mature plumage, their plumage is so like that of their parents that they are hardly distinguishable excepting that the colours are a little fainter.” Concerning the birds of East Africa, Mr. Loveridge (*P.Z.S.*, 1922, p. 854) writes: “Parties of this handsome little Lovebird (*Agapornis personatus*) flew about with great rapidity, screaming noisily; they

the first met with at Kongwa. They were nesting in the holes of a babab-tree, whose apertures they had apparently closed with a fence of thorns. Two eggs were found at the foot of the tree, side by side, and measured $\frac{5}{8} \times \frac{3}{4}$ in. How they came to be there I cannot say, for they contained embryos nearly ready for hatching." Oscar Reumann (*J.F.O.*, 1899, pp. 63-4) writes: "I observed this brown-headed dwarf Parrot in flocks from ten to twenty strong in the sacred fig groves of North Ugogo, also in Usandawes, Irangi, and at the northern point of the Manjava Lakes. Its area of distribution appears to be very limited."

REVIEWS

AMONG OUR BANISHED BIRDS ¹

The return of the Bittern to Norfolk is one of the most satisfactory results of the efforts that have been made in recent years to protect our wild birds. Some few years ago the Bittern was no more than a casual visitor to this country on its migration. Many years before this it had bred regularly in Norfolk, and elsewhere where conditions were suitable, but persecution from collectors and so-called sportsmen had driven it away, and it seemed unlikely that it would ever again return as a breeding species. But now it has come back, thanks to the protection that has been afforded it, and for several years past its "boom" has been heard throughout the Broads district, and it has nested freely and reared its young unmolested.

And it is the ardent desire of all bird-lovers that the case of the Bittern may not be a solitary instance of a species returning to its former haunts, and, with an increased love of birds and an abhorrence of the insane desire to kill every rare arrival, other former breeding species such as the Avocet, the Ruff, the Black Tern, and the Spoonbill may realize that here they will find a sanctuary and be our honoured guests.

Every year these birds visit their old haunts upon their migration, but formerly they were hunted down as soon as they appeared, and it may take long for them to realize that an enlightened generation

Among our Banished Birds, by Bentley Beetham, F.Z.S., F.R.G.S. Edward Arnold & Co., 41-3 Maddox Street, London, W. Price 10s. 6d. net.

of human beings wishes them only good. If they are to be seen in their breeding haunts now, one must follow Mr. Bentley Beetham who has spent many days amongst them in their haunts in Holland and Spain, and who, in a most fascinating volume describes and illustrates their life history.

The author writes in a vivid and charming style, and all his chapters are delightful, but perhaps the most interesting of all is that devoted to an account of the Spanish Marismas, vast areas of low-lying ground at or near the estuaries of rivers that at times are swamped, except for tiny scraps of land raising their surfaces above the water, which as the sun increases in power, and the water evaporates, grow larger and form ideal breeding places for many birds such as the Whiskered Tern, the Egret, the Avocet, the Stilt, and the Pratincole.

Amongst all of these, Mr. Bentley Beetham has wandered and waded, and his observations, so well described in his book, will give great pleasure to all who read it.

THE BIRDS OF BUTE¹

The Island of Bute in the Firth of Clyde is about 16 miles in length, with an average breadth of 4 miles. It is of a very irregular shape, two-thirds being arable land and the remainder mostly under heather. There are two large lochs, and the ground rises in parts to over 600 feet, and parts are well wooded.

With such a variety of country a varied and numerous avifauna was to be expected, and Mr. McWilliam is able to give accounts of no less than 168 species as occurring on the island. The Lapwing is common at all seasons, and is extremely conspicuous in the fields and on the moors in spring. The Curlew is also extremely common. The Skylark and the Song Thrush and the Waterhen are easily found. The Gannet is to be seen diving almost every day between April and September. Gulls old and young are present almost everywhere at all seasons. "In fact," writes the author, "from the diversity of the country, there are few places of the same size where a naturalist would be certain of finding so many of the finer British birds as on Bute."

¹ *The Birds of the Island of Bute*, by John Morell McWilliam, B.A. H. F. & Witherby, 326 High Holborn, W.C. Price 8s. 6d. net.

CORRESPONDENCE

BEHAVIOUR OF BLUE ROBINS

SIR,—The following note may be of interest and help to anyone who the happy possessor of a pair of Blue Robins, but who has failed induce them to nest.

Last winter a pair of these truly delightful birds arrived here and were most carefully tended ; in fact, they were perhaps pampered, I was afraid of losing one or other before the breeding season. At the end of March the birds were placed in a nice aviary with only a few Parrot Finches and some Chinese Quail as companions.

During the whole of April and May every insect was pounced on by the male and given to the female, who seemed to have a never-ending appetite for such dainties ; at the same time never a straw was carried, though I had provided some four or five most attractive boxes of all types in the shelter of the aviary. I began to feel despondent, more especially so on 28th May, when I visited Mr. Ezra and found that his birds were rearing their *second* brood. I looked around for a clue ; his birds were certainly not so fine a pair as mine—the aviary was smaller, and there was less choice of nest-boxes ; in fact, the one the birds had used was hung in the open on a post—“ A silly place for the birds to choose,” thought I.

On the following day, as my birds were still doing nothing, I took a ladder and hung it on a nail which happened to be sticking out of one of the posts forming the outer flight of the aviary, some 6 feet from the ground. What was my amazement to see both birds instantly dive into the box through the entrance hole. The time was 1.15 p.m., at 2 o'clock I looked in the box and found an almost completed nest. By 9th June the hen had laid her clutch of four eggs, from which she reared three young. Contrary to Captain Waud, I find these birds very easy to satisfy. Mine must have consumed several pounds of gentles when rearing their young.

The season was now too far advanced to expect a second nest, but I am still wondering whether any attempt at nesting would ever have been made had I not put that nest box outside.

MAURICE AMSLER.

THE SULA ISLAND KING PARRAKEET

SIR,—My Sula Island King, mated to a Crimson-wing, hatched two young ones with her third nest ; one died when a few days old, I think because the first brood worried her and prevented her from feeding properly, she being too good a mother to send them about their business. The second left the nest on 4th October, and is a fine bird, rather differently coloured from the three older ones, red covering more than half the breast, while there is a tinge of the same colour on the throat. About ten days before the young bird flew, the indefatigable King laid a fourth time in the same log, feeding her offspring and sitting on the eggs at the same time. In the former task she was helped by the Crimson-wing, although the latter has been long in moult.

TAVISTOCK.

AN INTELLIGENT CRIMSON-WING

SIR,—A young Crimson-wing I bred this last summer recently gave an almost uncanny display of intelligence and adaptability. When he could feed himself, I moved him from his mother's aviary to that occupied at night by the liberty birds, it being my intention to train him to fly at liberty. The liberty bird aviary is one of a row of about twenty exactly similar aviaries, and is a hundred yards from the Crimson-wing's habitation. The only means of exit in the morning is through a small door about a foot square, low down in the front of the flight, an opening not usually discovered by birds until they have been in the aviary many days or even weeks. In the afternoon an inward-pointing funnel of wire-netting is put in the little door to trap for the night, the birds which enter to feed. Only one Parrakeet, an adult cock Crimson-wing, has ever learned to find his way out through the end of the inward-pointing funnel, and it took him many months to do so, and he was never able to negotiate a funnel as long as those at present in use.

The young bird did not seem disturbed by his change of quarters and was not observed to be making any effort to find a way out, but that same afternoon, *with the funnels in*, he made his escape and joined his father on the top of the aviary where he was born. Next

orning I found him feeding inside the box used for birds at liberty, which are not shut up at night. It has a dark interior, and the food is visible from the entrance, and only birds trained by gradual stages can use it. Of course, in this case he had his father's example to follow, but even so he learned the use of the thing in an uncommonly short time. As he had soon found his parents, and an outside supply of food, I concluded that he would enter the other aviary no more, but within a couple of hours he had left the old birds and was back inside and has never offered to leave it since!

TAVISTOCK.

THE GIN GIN BIRD

SIR,—With reference to Mrs. A. A. Prestwich's inquiry about the Gin Bird, which was sold at the sale of Mr. E. H. Bostock's Scottish Birds in Glasgow on 27th April, 1909, at the record price of 260 guineas, and was at the sale in question, and am able to give you the facts.

The bird was a Bauer's Parrakeet (*Barnardius zonarius*), not a particularly fine specimen, but was a wonderful whistler, whistling one or two tunes in a very sweet mellow tone, in fact, it was the sweetest whistler of any bird I have ever heard.

The bird was sold to the late Mr. Frank Bostock, a brother of Mr. E. H. Bostock, and many thought at the time that the sale of this bird might be an advertising stunt, but of course there could be no proof of this.

I am afraid the name "Gin Gin" was a coined one.

AND. WILSON.

FISCHER'S LOVEBIRDS

SIR,—Being somewhat short of room, I recently turned a Fischer's Lovebird that had been ill into a large aviary containing Siskins and Goldfinches. Within a very few days and before its evil disposition had been observed it had succeeded in killing one of each. This may act as a warning to anyone who may be disposed to try this new Lovebird in mixed company. I believe Black-cheeks and Nyasas have the reputation of being fairly amiable.

TAVISTOCK.

GREEN INDIAN CORN AS FOOD FOR BIRDS

SIR,—It may interest some readers to hear that I have found green cobs of Indian corn (maize) a very useful food in my aviary this summer, Budgerigars, Parrakeets, and Finches all seem very fond of it and prefer it to lettuce, seeding grass, or unripe millet sprays.

The best time to use this corn is just before the grain is fully developed, but no longer "milky".

It is of course necessary to strip off the outer leaves and the silky tassel, so that the birds can get at the grain easily.

The silky tassel when dried is an excellent material for nest lining.

This note is chiefly intended for overseas members, but I think maize could be grown quite well in the south of England if the seeds were started early in the year under glass and planted out after the danger of frost was passed.

Sweet corn, such as is grown for table use, is even more readily eaten than the common yellow variety.

H. C. EUSTACE.

SHANGHAI.

THE DERBYAN PARRAKEET

SIR,—Having just received the MAGAZINE for September, and reading Lord Tavistock's letter regarding the Cock Derbyan in his aviary, I am sending you this note in case it may be of general interest.

The Derbyan Parrakeet reaches Shanghai under normal conditions from Chungking in Szechuan Province, West China, and from the time it is caught is fastened by a chain around one leg to its perch; while in transit this perch is usually a bamboo supported on a framework and several birds are attached to the same perch; it is never caged.

In Shanghai the birds are sold on iron frames about fourteen inches long, but as this perch has two moulded brass caps attached, one at either end, the bird's movements are restricted to about ten inches of perch, and if they are sold to the Chinese they remain fastened in this manner for life.

The Chinese feed this bird on paddy rice, sometimes adding a lit-

up seed, and whilst agreeing with Lord Tavistock that the bird would hardly under the conditions in which birds are kept at home, yet it would appear that they soon die in Chinese hands.

It has been quite impossible to obtain this species in Shanghai the lower Yangtze River ports this year, as no birds came down from Szechuan last year owing to the civil war on the upper river, and as dealers were unable to produce birds when quite large sums were offered one must assume that those brought down the preceding year were dead.

Having twice met with no success in obtaining birds direct from Szechuan I hope the third attempt will meet with results and that in later issues of the MAGAZINE we may read of "The Breeding of the Szechuan Parakeet" and that members will be able to see a pair of these birds in the London Zoological Society's Gardens before next spring.

H. C. EUSTACE.

SHANGHAI.

ROSY-FACED LOVEBIRDS

SIR,—I read Mr. Nicholson's letter on the breeding habits of the Rosy- or Peach-faced Lovebird (*Agapornis roseicollis*) with great interest.

In my experience of the breeding of this bird the eggs are always incubated by the hen bird alone, the cock entering the nest solely for the purpose of feeding the hen.

L. CHRISTIE-MILLER.

SIR,—With regard to Mr. Nicholson's letter in the October issue, being that you invite the experiences of other members who have bred *Agapornis roseicollis*. I have bred a good many of these birds, and have always found that the hen undertakes most of the business of incubation. It is true that the cock spends a fair amount of his time in the nest with the hen, but that would appear to be the case with most of the genus *Agapornis*. In the case of the Rosy-faces I have bred the cock seems to spend even more time in the nest when once the young

are hatched, though the overcrowding with say five young and the two parents in one nest must be appalling.

I have a late brood of half-fledged young in the nest at the time of writing (24th October), and it is seldom that either of the parents leave the nest-box.

Incidentally I have found the best nesting material for them to be branches of lime, from which they readily strip the bark. I would suggest that it is just possible that Mr. Nicholson mistook the sexes of his birds, as I recently possessed an abnormal pair of which the hen was not only the larger, which is not usual, but much the more brightly coloured bird of the two.

EDWARD J. BOOSEY.

MASKED LOVEBIRD'S BREEDING

SIR,—I am now able to record the successful breeding of the Masked Lovebird (*Agapornis personata*). A single youngster, the only survivor of four, flew from the nest on 29th October. The bird was as large as the parents, and was readily distinguishable by the greyish tint of the yellow collar and the less intense black of the head.

The nest was continually added to, so that the young were gradually elevated in the box until almost pressed against the roof. In this practice of the Masked Lovebird conformed to that of the Black-cheeked and the Nyasa.

The young bird did not remain in the nest above a month.

M. V. ALLEN.

[Lord Tavistock has also been successful in breeding *Agapornis personata*, but his article is unavoidably held over until next month. In reply to our inquiry as to the date of leaving the nest, he writes, 4th November, "My Masked Lovebirds must have left the nest about a fortnight ago."—ED.]

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The date following the Member's name is the date of his election. "Orig. Mem." signifies that the Member joined the Society on its formation in October, 1894. The asterisk denotes that the Member pays the subscription through a bank. Members are requested to adopt this method of payment if convenient.

- ABEL, Rev. R. B. ; 83 SS. Peter and Paul's Clergy House, Gloucester Road, Teddington. (Jan., 1926.)
- AINSWORTH, A. ; 7 Poro Street, Kilbirnie, Wellington, New Zealand.
- ALLEN, M. T., F.Z.S. ; Ravenswood, Northwood, Middlesex. (March, 1925.)
- *ALLENBY, FIELD-MARSHAL THE VISCOUNT, G.C.B., G.C.M.G. ; Naval and Military Club, Pall Mall, S.W. (Nov., 1922.)
- AMERICAN MUSEUM OF NATURAL HISTORY ; 77th Street and Central Park West, New York City, U.S.A.
- AMSLER, MAURICE, M.B., F.Z.S. ; Eton Court House, Eton, Windsor. (Dec., 1908.)
- ANDERSON, ALISTAIR ; Tullichewan Castle, near Balloch, Dumbartonshire. (June, 1923.)
- APPLEBY, JOSEPH ; Farnley, Great Crosby, Liverpool. (Oct., 1923.)
- ARNAU, JOSÉ JULÍA (Ingeniero) ; Plaza Constitucion 15, Binisalem, Mallorca. (Jan., 1927.)
- *ASTLEY, Mrs. HUBERT ; Brinsop Court, Hereford.
- ATKIN, Harold T. ; 6 Psalter Street, Sheffield. (Jan., 1927.)
- ATKINSON, R. M. ; 23 Carlton Mansions, Portsdown Road, W. 9. (May, 1926.)
- BAILEY, LIEUT.-COL. F. G. G. ; Lake House, Salisbury. (Aug., 1926.)
- *BAILY, W. SHORE-, F.Z.S. ; Boyers House, Westbury, Wilts. (Feb., 1920.)
- *BAKER, E. C. STUART, F.Z.S., M.B.O.U. ; 6 Harold Road, Upper Norwood, S.E. 19. (Feb., 1904.)
- *BALDELLI, La Contessa GIULIA TOMMASI ; 4 Via Silvio Pellico, Florence, Italy. (April, 1902.)
- BAMFORD, WILLIAM ; Bridgecroft, Kent Road, Harrogate. (March, 1904.)
- BARKER, Major C. H. ; The Gables, Lyminge, Kent. (Feb., 1924.)

- BARKER, Capt. N. L., O.B.E. ; Chevin House, Otley, Yorkshire. (Dec., 1926.)
- BARLOW, Mrs. ; 45 Bath Road, Swindon. (Sept., 1926.)
- BARLOW-MASSICKS, Miss F. M. ; Kelham House, Newark, Notts. (1913.)
- *BARNARD, T., M.C., F.Z.S. ; Duncote Hall, Towcester. (Sept., 1919.)
- BARNES, A. H. ; 2 Carlton Road, Putney Hill, London, S.W. 15. (May, 1921.)
- BARR-SMITH, Mrs. ; Birkegate, Glen Osmond, South Australia. (Sept., 1926.)
- BATH, Marchioness of ; Longleat, Warminster. (May, 1921.)
- BEARBY, W. R. ; 34 Church Street, West Hartlepool. (Aug., 1923.)
- BEDFORD, Her Grace the Duchess of, F.Z.S. ; Woburn Abbey, Woburn, Beds ; and 15 Belgrave Square, S.W. 1. (Feb., 1903.) (*Vice-President.*)
- BEEVER, G. ; Brooklyn, Kirkheaton, Huddersfield. (June, 1923.)
- BELL, W. D. ; Glenrock, Brough, East Yorkshire. (May, 1926.)
- BERESFORD WEBB, G. M. ; Norbryght, South Godstone, Surrey. (May, 1906.)
- BEST, CYRIL ; Brampton, Ashfield Avenue, Mansfield. (Aug., 1921.)
- BLAAUW, F. E., C.M.Z.S., M.B.O.U. ; Gooilust, 's Graveland, Hilversum, Holland. (Nov., 1901.)
- BLACKBURN, H. R. ; Woodlands, Surrenden Road, Preston, Brighton. (1913.)
- BLACKBURN, Miss O. ; Rock End, Torquay, S. Devon. (May, 1922.)
- BLAZER, ; 9 Schiedamschedijk, Rotterdam, Holland. (Aug., 1926.)
- *BOOSEY, E. J. (Feb., 1921.)
- BORBIDGE, HARRY M. ; Cloucemeath, Darling, Melbourne, Australia. (Feb., 1925.)
- BORMAN, Major F. W., M.B.O.U. ; Zoological Gardens, Giza, Egypt. (Oct., 1925.)
- BORWICK, Hon. Mrs. ; 51 Charles Street, Berkeley Square, W. 1. (Aug., 1926.)
- BOURKE, Hon. Mrs. ALGERNON ; 75 Gloucester Place, Portman Square, W. 1. (Feb., 1911.)
- BOUSFIELD, Miss ; Hazelgrove, New Milton, Hants. (Jan., 1908.)
- BRADSHAW, J., M.Sc., A.I.C., F.C.S. ; Ruhebank, Sulby Grove, Bare, Morecambe. (Feb., 1925.)
- BREITENBACH, J. M. ; 35 E. 84th Street, New York, N.Y., U.S.A. (Jan., 1925.)
- BRIGHT, HERBERT ; Woolton Tower, Woolton, near Liverpool. (June, 1914.)
- BRIGHT, Mrs. HERBERT ; Woolton Tower, Woolton, near Liverpool. (Sept., 1925.)
- BROWN, W. FERRIER ; 57 Barras Lane, Coventry. (May, 1924.)
- BROWNING, WILLIAM H. ; 16 Cooper Square, New York City, U.S.A. (March, 1906.)
- BRUNTON, J. W. ; Inveresk Lodge, Musselburgh. (June, 1923.)
- BRYANT, HORACE H. ; Melrose, Boynden Road, Maidenhead. (Feb., 1924.)
- BUTLER, ARTHUR LARCHIN, M.Aust.O.U. ; 126 Collins Street, Hobart, Tasmania. (July, 1905.)
- BÜTTIKOFFER, Dr. J., C.M.Z.S., M.B.O.U. ; Hallnylstrasse 32, Berne, Switzerland. (Oct., 1907.) (*Hon. Mem.*)

- CALVOCORESI, P. J. ; Holme Hay, Croxteth Drive, Liverpool. (Oct., 1916.)
- CAMPBELL, Mrs. J. P. ; 16 Arney Road, Remuera, Auckland, New Zealand. (May, 1924.)
- CAPERN, F. ; Lewin's Mead, Bristol. (Oct., 1907.)
- *CARPENTER, The Hon. Mrs. ; 9 Hay Hill, Berkeley Square, W. 1. (Feb., 1898.)
- CARRICK, GEORGE ; 1,682 Maryhill Road, Glasgow. (March, 1898.)
- CARR-WALKER, HERBERT ; Almsford House, Fulwith Lane, Harrogate. (June, 1917.)
- CASE, Mrs. ALICE M. ; Heatherwode, Buxted, Uckfield, Sussex. (May, 1918.)
- *CHAPLIN, E. W. ; The Firs, Great Amwell, Ware, Herts. (Sept., 1903.)
- CHAPMAN, G. B., F.Z.S. ; 17 Tottenham Court Road, London, W. (Nov., 1922.)
- CHARTERS, Major W. C. M. ; No. 6 Civil Lines, Roorkee, U.P., India. (Nov., 1926.)
- *CHATTERTON, Mrs. ; 3 Kingsend Avenue, Ruislip, Middlesex. (Jan., 1915.)
- CHAWNER, Miss ; The Arehes, Wargrave, Berks. (July, 1899.)
- CHILD, F. R. ; Braemar, Down's Road, Luton, Beds. (March, 1920.)
- CHRISTIE, Mrs. G. ; Kellas, By Elgin, Morayshire. (Jan., 1913.)
- CLARK, Mrs. ALFRED ; Warren House, Iver Heath, Bucks. (Sept., 1925.)
- CLAYTON, ROBERT A. ; The White House, Adwick-le-Street, near Doncaster. (July, 1925.)
- COCKELL, N. F. ; Karrageen, Criequet Field Road, Torquay. (1922.)
- COOPER, Mrs. H. VICTOR ; 8 Hamstel Road, Southchurch, Southend-on-Sea. (May, 1926.)
- COOPER, JAMES ; Killerby Hall, Scarborough. (Orig. Mem.)
- CORY, REGINALD R., F.Z.S. ; Duffryn, near Cardiff. (August, 1905.)
- COTTERELL, R. ; Garnons, Hereford. (April, 1926.)
- COTTRILL, Mrs. H. L. ; Seven Barrows, Lambourn, Berks. (April, 1924.)
- COWLEY, H. ; The Manor House, Rubbenhall, Kenilworth. (Jan., 1926.)
- CREMER, C. H. ; Am Dobben 130, Bremen, Denmark. (March, 1926.)
- CUNNINGTON, Mrs. H. J. ; Queenborough, Braintree. (April, 1923.)
- CURREY, Mrs. ; The Pit House, Ewell, Surrey. (Feb., 1906.)
- CURRIE, J. ; 54 Netherby Road, Edinburgh. (Aug., 1915.)
- CUSHNY, CHARLES ; Bath Club, 34 Dover Street, Piccadilly, W. 1. (Dec., 1926.)
- CZARNIKOW, HORACE, F.Z.S. ; Hollington House, Newbury. (March, 1924.)
- DECOUX, A. ; Géry-près Aixe, Hte. Vienne, France. (April, 1917.)
- DELACOUR, JEAN, F.Z.S. ; Clères, Seine Inf., France. (April, 1916.)
- DELL, CHARLES ; Chenies Eastcote, Pinner, Middlesex. (July, 1900.)
- DENLEY, CHARLES F. ; Roekville, Md., U.S.A. (Jan., 1924.)
- DENNIS, Mrs. CYRIL ; Oakley Hall, Market Drayton, Salop. (June, 1920.)

DENNIS, Mrs. H. E. ; Lisle Court, Wootton Bridge, Isle of Wight. (March, 1903.)

DENNY, Mrs. HENRY, C.B.E., Staplefield Place, Staplefield, Sussex. (May, 1924.)

DICKINSON, Mrs. G. W., Upper Slaughter, Bourton-on-the-Water, Gloucestershire. (Jan., 1918.)

DIRECTOR, THE ; Zoological Museum, Tring, Herts. (1912.)

DONALD, C. H., F.Z.S. ; Egerton Hall, Dharmasala Cantt., Kangra District, Punjab, India. (March, 1906.)

DONOVAN, H. B. ; 184 Adelaide Street West, Toronto, Ontario, Canada. (May, 1925.)

DOOLY, THOMAS L. S. ; Boyne Lodge, Formby, near Liverpool. (Jan., 1924.)

DRAKE, Mrs. F. W. ; 9 Clydesdale Road, Colville Square, W. 11. (Dec., 1926.)

DRAKE, G. TYRWHITT, F.Z.S. ; Sandling Farm, Maidstone. (June, 1918.)

*DREWITT, FREDERIC DAWTREY, M.A., M.D., F.R.C.P., F.Z.S. ; 14 Palace Gardens Terrace, Kensington, W. 8. (May, 1903.)

DUNLEATH, The Lady ; Ballywalter Park, Ballywalter, Co. Down, Ireland. (August, 1897.)

DUNMORE, OSCAR E. ; Saxonholme, Oadby Road, Wigston Magna, Leicestershire. (Oct., 1922.)

EDMONDS, HARRY ; The Limes, Tolworth Road, Ipswich. (Jan., 1926.)

EDWARDS, Mrs. A. E. ; Drayton Cottage, Ruislip, Middlesex. (Jan., 1925.)

EDWARDS, J. C. ; 629 So, Grand Avenue, Los Angeles, California, U.S.A. (June, 1926.)

ELLIOTT, F. S. ; Westfield, Kelvin Road, Ipswich, Suffolk. (Nov., 1925.)

ELPHICK, Dr. GEORGE ; 118 Harley Street, W. 1. (April, 1926.)

ELWES, Mrs. ROBERT ; Little Congham, King's Lynn, Norfolk. (Dec., 1926.)

EMBLETON, Miss ; Holmhurst, Bishop's Down, Tunbridge Wells. (Jan., 1925.)

ENTWHISTLE, Miss N. ; Oak Tree Cottage, Wash Common, Newbury. (May, 1926.)

EVANS, G. ; 85 Parliament Hill Mansions, N.W. 5. (April, 1926.)

EYTON-JONES, R., M.R.C.S., L.R.C.P., L.R.F.P.S. ; Holly Lodge, Broadway, Peterborough. (Sept., 1926.)

*EZRA, ALFRED, O.B.E., F.Z.S. ; Foxwarren Park, Cobham, Surrey. (1912.)

*EZRA, DAVID, F.Z.S. ; 3 Kyd Street, Calcutta. (June, 1912.)

FASEY, WILLIAM R. ; The Oaks, Holly Bush Hill, Snaresbrook, E. 11. (May, 1902.)

FILLMER, H. R. ; Brendon, 22 Harrington Road, Brighton. (*Orig. Mem.*)

FILMER, Hon. Mrs. WILSON, F.Z.S. ; 27 High Street, W. 1. (Nov., 1920.)

FINN, FRANK, B.A., F.Z.S. ; c/o Grindley & Co., 54 Parliament Street, S.W. 1. (*Hon. Mem.*)

FLOWER, Mrs. STANLEY ; Spencer's Green, Tring, Herts. (July, 1926.)

FOLLETT, Miss R. ; 2 Alston Terrace, Exmouth, S. Devon. (Oct., 1926.)

- FOOKS, F. G. ; e/o Mon. J. Delacour, Chateau de Clères, Seine Inférieure, France. (Jan., 1926.)
- FOX, Miss ; e/o Lilfordia (Private bag), Salisbury, Rhodesia. (July, 1926.)
- FROST, Mrs. E. K. ; Glebe House, Hayes, Kent. (Jan., 1926.)
- FROST, WILFRED ; 6 Wardo Avenue, Fulham, S.W. 6. (July, 1908.)
- GARCKE, Mrs. C. ; Wye Lodge, Maidenhead. (June, 1916.)
- GHIGI, il Prof. ALLESSANDRO ; Via d'Azeglio, Bologna, Italy. (Mar., 1911.)
- GIBBINS, WILLIAM B., F.Z.S. ; Ettington, near Stratford-on-Avon. (June, 1895.)
- GLADDING, WALTER, F.R.H.S., N.R.S. ; Old Mill Gardens, Wannoek, Polegate, Sussex. (Dec., 1926.)
- GODDARD, H. E. ; Birchcroft, Feteham, near Leatherhead. (Feb., 1899.)
- GODDARD, Mrs. ; The Lawn, Swindon. (Feb., 1923.)
- GOODWIN, T. J. ; 185 Old Kent Road, London, S.E. (Jan., 1920.)
- *GOSSE, PHILIP, M.R.C.S., L.R.C.P., F.Z.S. ; Savile Club, Piccadilly, W. (April, 1911.)
- GOSSE, Mrs. JAMES ; 9 Park Terrace, Park Side, South Australia. (July, 1923.)
- *GRAY, HENRY, M.R.C.V.S. ; 1 Redfield Lane, Earls Court Road, S.W. 5. (June, 1906.)
- GREEN, ROLAND, F.Z.S., The Ruskin Studio, 7 New Court, Carey Street, Chancery Lane, W.C. 2. (Sept., 1926.)
- GREGORY, Mrs. ; Melville, Parkstone, Dorset. (Dec., 1901.)
- GREY OF FALLODON, Viscountess, F.Z.S. ; Mulberry House, 37 Smith Square, S.W. 1. (April, 1926.)
- GREY, The Viscount of Fallodon, K.G., F.Z.S. ; Fallodon, Lesbury, Northumberland. (1913.)
- GROSSMITH, Mrs. J. L., F.Z.S. ; The Grange, Bickley, Kent. (Jan., 1923.)
- GROVE, Hon. Mrs. JULIAN ; 57 Tregunter Road, London, S.W. 10. (March, 1917.)
- GROVES, ALFRED G. ; 5 Upper East Hayes, Bath. (Aug., 1926.)
- GUILFORD, Miss H. ; 23 Lenton Avenue, The Park, Nottingham. (Mar., 1903.)
- GULBENKIAN, C. S. ; 27 Quai d'Orsay, Paris. (Dec., 1908.)
- *GURNEY, G. H., F.Z.S. ; Keswick Hall, Norwich.
- HAAGNER, A. K., F.Z.S., M.B.O.U., Director National Zoological Gardens ; Box 754, Pretoria, South Africa. (Nov., 1905.)
- HALL, A. JOHN : Home Farm, Savernake Forest, Marlborough. (Feb., 1926.)
- HALL, WALTER T. ; 6 Gladstone Road, Sheffield. (Nov., 1926.)
- *HAMILTON, Mrs. ; Villa Alexandra, Chermex sur Montreux, Switzerland.
- HAMPE, ALEX. ; e/o Wm. Meyerink and Co., 66 Szechuen Road, Shanghai, China. (Jan., 1927.)
- HANKEY, ALGERNON, A., F.Z.S. ; 71 Lissenden Mansions, Highgate Road, N.W. 5. (June, 1923.)
- HANSELL, FRANK A. D. ; Nairnbank, Nuthill, Perthshire. (May, 1925.)
- HARGREAVES, Miss MOLLY ; Nazeing Park, Essex. (Nov., 1922.)

- HARMON, DR. BYRON M.; Essex Co. Sanatorium, Verona, N.Y., U.S.A. (Dec., 1924.)
- HARPER, EDMUND WILLIAM, F.Z.S., M.B.O.U.; c/o Thos. Cook & Son, Calcutta, India. (Feb., 1901.)
- HARRISON, T. O.; 127 Hastings Road, Sunderland. (March, 1918.)
- HARTLEY, Mrs.; Lynchfield, Bishops Lydeard, Somerset. (April, 1897.)
- HARVEY, A.; Rapparee, Bristol Hill, Brislington, Bristol. (May, 1926.)
- HARVEY, P. T.; Farleigh, 170 King's Road, Westcliff-on-Sea, Essex. (Nov., 1926.)
- HARVEY, S., jun.; Northgate Street, Millswood, Adelaide, South Australia. (Feb., 1925.)
- *HARVEY, The Hon. Lady; Langley Park, Slough, Bucks. (Oct., 1906.)
- HAWKINS, L. W.; 20 Norton Folgate, London, E. 1. (June, 1924.)
- HAYLEY, J. NEWTON, F.Z.S.; Colne Lodge, Cromer. (March, 1924.)
- HEBB, THOMAS; Brooklea, The Downs, Luton, Beds. (April, 1914.)
- HEDGES, GEORGE; Courtlands, Beaconsfield, Bucks. (April, 1926.)
- HENSTOCK, J. H.; Market Place, Ashbourne, Derbyshire. (March, 1907.)
- HEUMANN, G. A.; Ramona, Bucroft, Sydney, N.S.W. (Sept., 1913.)
- HEWITT, T. W. G.; The Old Hall, Weelsby, Grimsby. (April, 1909.)
- HEWLINS, Miss MARY R.; The Howe, Saint Ives, Huntingdonshire. (Jan., 1927.)
- HEYWOOD, RICHARD, F.Z.S.; Pentney House, King's Lynn, Norfolk. (Oct., 1911.)
- HINKS, Mrs. ARTHUR; 1 Percy Villas, Campden Hill, W. 8. (April, 1923.)
- HIRST, ALBERT; 10 Talbot Avenue, Egerton, Huddersfield. (July, 1923.)
- HIRST, ROBERT S.; The Royds, Cleckheaton, Yorkshire. (April, 1926.)
- *HOLLAS, Mrs. K. E.; Orta, Stuart Road, Preston. (Oct., 1922.)
- HOLTON, OLIVER W.; Twin Brook Game Farm, Middleton, N.J., U.S.A. (June, 1925.)
- HOOD, HARRY S.; Keith Theatre Building, Philadelphia, Pa., U.S.A. (April, 1925.)
- *HOPKINSON, EMILIUS, C.M.G., M.A., M.B.Oxon., D.S.O., F.Z.S.; Bathurst, Gambia, West Africa. (Oct., 1906.)
- *HOPSON, FRED C.; Porchester, Newbury. (March, 1897.)
- *HORSBRUGH, C. B.; Blessington House, Hillsborough, Co. Down.
- HORSFORD, D. M.; Bosvathic Penryn, Cornwall. (Aug., 1922.)
- HOUSDEN, JAMES B.; Brooklyn, 31 Cator Road, Sydenham, S.E. 26. (Orig. Mem.)
- HOWARD, ROBERT JAMES; Shear Bank, Blackburn. (April, 1903.)
- HUNTING, T. CARLTON; Gaybird Pheasantry, Great Missenden, Bucks. (June, 1925.)
- *HUTCHINSON, Miss ALICE; Alderton, Chippenham, Wilts. (Aug., 1907.)
- INGLEFIELD, Mrs. [R. R. C.]; 27 Cadogan Square, S.W. 1. (Jan., 1924.)
- IRVINE, W. J.; 36 Ann Street, Belfast. (June, 1926.)
- ISENBURG, A. H.; 282 Atherton Road, Menlo Park, California, U.S.A. (Aug., 1926.)

- JACKSON, B. ; 33 Church Street, Bingley, Yorks. (Jan., 1926.)
- JACKSON, Major A. E. BLYTHE ; Glenholme, Bladon Drive, Belfast. (Sept., 1924.)
- JENNISON, GEORGE, M.A., F.Z.S. ; Zoological Gardens, Belle Vue, Manchester, (April, 1918.)
- JOHNSTON, ROBERT PERCY, Longthwaite Road, Wigton, Cumberland. (March, 1925.)
- JOHNSTONE, Mrs. ; Burrswood, Groombridge, Sussex.
- KEATOR, BEVERLEY, R.F.D. ; 12 Westport, Conn., U.S.A. (June, 1924.)
- KEMP, Robert ; Holne Cott, Stafford Place, Weston-super-Mare. (March, 1926.)
- KERSHAW, Miss MARY E. ; 7 Westcliffe Road, Birkdale, Southport. (June, 1924.)
- KEWLEY, Mrs. M. A. ; Barwick House, Yeovil, Somerset. (Sept., 1910.)
- KINKEAD, GEORGE, W., F.Z.S. ; 9 Donegal Square, S. Belfast. (June, 1924.)
- KNOBEL, Miss E. MAUD, F.Z.S., M.B.O.U. ; 32 Tavistock Square, W.C. 1. (Aug., 1916.) (*Hon. Secretary and Treasurer.*)
- KUSER, J. DRYDEN ; Faircourt, Bernardsville, New Jersey, U.S.A. (1912.)
- LAMBRICK, Prebendary M. ; Blagdon Rectory, Bristol. (Jan., 1921.)
- LANCASTER, Mrs. ; 7 Victoria Terrace, Walsall. (Dec., 1923.)
- LAUDER, P. ; 646 Barker Road, The Peak, Hong-kong, China.
- LAW, SATYA CHARAN, F.Z.S. ; 24 Sukeas Street, Calcutta. (1919.)
- LEACH, C. F. ; Vale Lodge, Leatherhead, Surrey. (June, 1914.)
- LECALLIER, Madame, F.Z.S. ; 109 Rue de la Republique, Caudebec-les-Elbeuf, France. (April, 1918.)
- LEWIS, ARTHUR, F.Z.S. ; Brambleside, Ferndown, Dorset. (Jan., 1926.)
- LEWIS, J. SPEDAN, F.Z.S. ; Chairman's Office, Messrs. Peter Jones, Ltd., Sloane Square, S.W. 1. (Sept., 1924.)
- LEWIS, W. ; 37 Somerset Road, Teddington, Middlesex. (Jan., 1923.)
- LEYLAND, C. J. ; The Mead, Beal, Northumberland. (Sept., 1926.)
- LIBRARY INTERNATIONAL INSTITUT D'AGRICULTURE, Villa Umberto, 1. Rome 10.
- LIENAU, C. H. A. ; Newbury, 23 Victoria Avenue, Unley Park, South Australia. (Oct., 1917.)
- *LILFORD, The Lady ; Lilford Hall, Oundle, Northants. (Jan., 1898.)
- LITTLEDALE, Mrs. ; Ravenhurst, Pittville, Cheltenham. (April, 1926.)
- LOCK, R. G. ; Wilcox Street, Adelaide, South Australia. (April, 1926.)
- LOCKER-LAMPSON, OLIVER (COMMANDER, R.N.V.R.), C.M.G., D.S.O., M.P. ; 4 North Street, Westminster, S.W. 1. (Aug., 1926.)
- *LOCKYER, ALFRED ; High Croft, Eversley Park Road, Winchmore Hill, N.21. (Dec., 1905.)
- LODGE, GEORGE E., F.Z.S. ; Hawkhouse, Park Road, Camberley, Surrey. (May, 1923.)
- LONGDON, Mrs. C. A. ; Arreton, Epsom Road, Guildford. (Feb., 1909.)

- LONGLANDS, F. ; 66 East Street, Chichester. (May, 1925.)
 LOOMIS, H. B. ; 464 California Street, San Francisco, California, U.S.A. (March, 1926.)
 *LOVELACE, The Countess of ; Wentworth House, Chelsea Embankment, S.W.3. (May, 1906.)
 LOVETT, C. ; Glendale Park, Nashville, Tenn., U.S.A. (Dec., 1912.)
 LOW, GEORGE E. ; 14 Royal Terrace East, Kingstown, Ireland. (Mar., 1913.)
 LUDWIG, Herr OTTO ; Merseburgerstrasse 20, Halle a.d. Saale, Germany. (Jan., 1925.)
 LUIG, Dr. BRUNO ; 105 Avenue du Diamant, Bruxelles. (Nov., 1924.)
 McCALL, C. HOME, C.B.E. ; Primrose Cottage, Walberswick, Southwold. (June, 1923.)
 MCCORQUODALE, Mrs. ; Cound Hall, Shrewsbury. (Jan., 1920.)
 McCULLAGH, J. C. ; Lismara, Whitehouse, Belfast. (Sept., 1926.)
 McDONALD, Miss B. ; The Cottage, Hollington Park, St. Leonard's-on-Sea. (Jan., 1922.)
 MACKAY, K. STEWART ; The Manor House, Esher, Surrey.
 MACKIE, PHILIP C. ; Spe-Cott, Ancaster Road, Far Headingley, Leeds. (Jan., 1926.)
 MACKLIN, C. H., M.R.C.S., L.R.C.P. ; 90 Dunstable Street, Ampthill, Beds. (May, 1923.)
 MALONE, Mrs. M. L'ESTRANGE ; West Lodge, Malton, Yorks. (Jan., 1902.)
 MANCHESTER PUBLIC LIBRARIES ; Reference Library, Piccadilly, Manchester. (July, 1913.)
 MARESI, POMPEO M. ; 36 W. 44th Street, New York, N.Y., U.S.A. (June, 1924.)
 MARRINER, JOHN SUMNER ; Newlands Cottage, Eynsham, Oxon. (Oct., 1923.)
 *MARSDEN, J. W., F.Z.S. ; Bank's Lane, Heysham Harbour, Lancs. (March, 1914.)
 *MARSHALL, ARCHIBALD McLEAN, F.Z.S. ; Chitcombe, Brede, Sussex. (Jan., 1906.)
 MASON, D. ; Anglet, B.P., France. (Jan., 1926.)
 MAVROGORDATO, Mrs. T. ; Tanglewood, South Godstone. (July, 1923.)
 MAXWELL, C. T. ; 1 Shardoncroft Avenue, Herne Hill, S.E. 24. (Dec., 1908.)
 MAXWELL-JACKSON, Miss M. ; Berry End, Knaresborough, Yorks. (Jan., 1913.)
 MAYER, F. W. S. ; Woodstock Road, Canowindra, N.S.W. (Aug., 1922.)
 MEADE-WALDO, E. G. B., F.Z.S., M.B.O.U. ; Stonewall Park, Edenbridge, Kent. (Jan., 1895.)
 METZGER, C. T. ; 6312 So. Ashland Avenue, Chicago, Ill., U.S.A. (1923.)
 MILLER, Miss L. CHRISTIE ; Clarendon Road, Salisbury. (May, 1926.)
 MILLER, Rev. T. W. T. ; The Rectory, Southwick, Sussex. (Sept., 1924.)
 MILLER, S. P. ; Northend, Gloucester Road, Teddington. (May, 1926.)
 MOODY, A. F. ; Lilford, Barnwell, Peterborough. (July, 1926.)

- MORTIMER, Mrs.; Wigmore, Holmwood, Surrey. (Orig. Mem.)
- MOTT, B.; 1 Lee Bank Road, Edgbaston, Birmingham. (Dec., 1926.)
- MOUNTAIN, BRIAN; Norbury Park, Dorking, Surrey. (Feb., 1923.)
- MOUNTAIN, Capt. WALTON; Groombridge Place, Kent. (Feb., 1923.)
- MULVEY, W. E.; 5 Overleigh Road, Chester. (Jan., 1921.)
- MUNTZ, MAJOR A. Irving; Ecchinswell House, Nr. Newbury. (Nov., 1926.)
- MURAT, PRINCE PAUL, F.Z.S.; 68 Rue de la Faisanderie, Paris XVI. (July, 1923.)
- MUSEUM OF COMPARATIVE ZOOLOGY; Cambridge, Mass., U.S.A.
- MYLAN, JAMES GEORGE, B.A., M.B. (Univ. Coll.), L.R.C.P. and L.R.C.S. (Ed.), etc.; 90 Upper Hanover Street, Sheffield. (Dec., 1901.)
- NAPIER, Mrs. EVERARD; The Vicarage, Old Windsor. (Aug., 1926.)
- NATIONAL ZOOLOGICAL PARK (The Superintendent); Washington, Dt., U.S.A.
- NELSON, RICHARD, 735 Holderness Road, Hull. (April, 1925.)
- NEVILL, Capt. T. N. C., F.Z.S.; 48 Sloane Square, S.W. 1. (July, 1917.)
- NEWMAN, T. H., F.Z.S., M.B.O.U.; Verulam, Forty Lane, Wembley Park, Middlesex. (May, 1900.)
- NEWMARCH, C. T., F.Z.S.; Gamage's Ltd., Holborn, W.C. (Aug., 1915.)
- NEW YORK ZOOLOGICAL SOCIETY, New York, U.S.A.
- NICOL, HAMISH, F.R.C.S., F.Z.S.; Hillside, Christchurch Road, Hampstead, N.W. 3. (Jan., 1926.)
- *NICHOLS, WALTER B., M.B.O.U.; Stour Lodge, Bradfield, Manningtree. (Jan., 1907.)
- NICHOLSON, ALFRED, E.; Blenheim, Forthview Terrace, Blackhall, Midlothian. (Feb., 1925.)
- NORMAN, J., jun.; 333 Fulham Road, S.W. 10. (Jan., 1925.)
- NORTH, W. N. D.; Meadow Court, Stoughton Drive, Leicester. (Dec., 1924.)
- "NOSHOMU"; c/o Maruzen Co., Tokyo, Japan. (1919.)
- *OBERHOLSER, HARRY C.; 2805 18th Street, N.W. Washington, D.C., U.S.A. (Oct., 1903.)
- OGLE, BERTRAM SAVILLE, M.B.O.U.; Mill House, Steeple Aston, Oxford. (Dec., 1902.)
- O'REILLY, NICHOLAS S.; 144 Eastern Road, Kemp Town, Brighton. (Dec., 1894.)
- PACKER, GEORGE F.; 38 Croydon Avenue, Croydon, Sydney, Australia. (April, 1925.)
- PAINTER, K. V.; 3240 Fairmont Boulevard, Shaker Heights, Cleveland, Ohio, U.S.A. (April, 1926.)
- PALMER, G. E.; 83 Park Street, Camden Town, N.W. 1. (March, 1926.)
- *PAM, Major ALBERT, F.Z.S.; Wormleybury, Broxbourne, Herts. (Jan., 1906.)

- PATRICK, LEON, M.D.; Smith Grote Building, Orange, California, U.S.A. (Dec., 1926.)
- PENROSE, FRANK G., M.D., F.Z.S., M.B.O.U.; Woodbury, 9 Grove Road, Eastcliff, Bournemouth. (Dec., 1903.)
- PERREAU, Mrs. G. A.; 16 Evelyn Court, Lansdowne Terrace, Cheltenham. (Sept., 1916.)
- PETTIGREW, M.; 6 Fifth Avenue, Kelvinside, Glasgow, W. (Jan., 1920.)
- PHILLIPS, JOHN C.; Wenham, Mass., U.S.A. (March, 1910.)
- PHILLIPS, L. L.
- *PICKFORD, RANDOLPH JOHN; Etherley Lodge, Nr. Bishop Auckland. (Feb., 1903.)
- PIKE, L. G., F.Z.S.; King Barrow, Wareham, Dorset. (1912.)
- PITHIE, Miss D. E.; 68 Clarendon Road, Southsea, Portsmouth. (Jan., 1918.)
- PLATH, KARL; 2847 Giddings Street, Chicago, U.S.A. (July, 1924.)
- *POCOCK, R. I., F.R.S., F.L.S., F.Z.S.; 33 Torrington Square, W.C. 1. (Feb., 1904.)
- POLTIMORE, Lady; Court Hall, North Molten. (Jan., 1926.)
- POND, Mrs. T.; Wylfa, Llangollen. (Nov., 1902.)
- PORTER, SIDNEY, F.Z.S.; Selwyn House, Old Normanton, Derby. (April, 1920.)
- *POTTER, BERNARD E., M.B., M.R.C.S., L.R.C.P., F.Z.S.; 17 Portland Place, W.
- POTTER, W. H.; Whetherill, Fitzillian Avenue, Harold Wood, Essex. (July, 1926.)
- POWELL, Miss M. M.; Roselyn, Oakhill Park, Liverpool. (1914.)
- PRESTWICK, Mrs. ARTHUR A., F.Z.S.; Kent's Farm, Winsor, Nr. Southampton. (May, 1924.)
- PRINCETON UNIVERSITY LIBRARY; U.S.A.
- PROCTER, Mrs.; Cullecoats, The Ridgeway, Asten Wood, Gerrard's Cross. (Sept., 1926.)
- PURVIS, Mrs. C. J.; West Acres, Alnwick, Northumberland. (Oct., 1920.)
- PYCRAFT, W. P., A.L.S., F.Z.S., M.B.O.U., etc.; British Museum (Nat. Hist.), Cromwell Road, S.W. 7. (Nov., 1904.) (*Hon. Mem.*)
- PYMAN, Miss E. E.; West Hartlepool. (June, 1919.)
- QUINCEY, R. S. DE Q.; The Vern, Bodenham, Hereford. (April, 1913.)
- *RATTIGAN, Capt. G. E.; Tenby Lodge, Paignton, S. Devon. (Aug., 1908.)
- REEVE, Capt. J. S., F.Z.S.; Leadenham House, Lincoln. (March, 1908.)
- REID, ALFRED ROBERT; Curator of the Beaumaris Zoo., Hobart, Tasmania. (Nov., 1925.)
- REID, W. J. G.; Funchal, Madeira. (Feb., 1895.)
- RICARDO, Mrs.; Colbrook, Aldwick. (July, 1926.)
- ROBERTS, Miss IDA; Beaumaris, Montpelier Street, Hobart, Tasmania. (Jan., 1923.)

- ROGERS, H. E., F.Z.S.; "Arcquipa," 7 Aigburth Road, Liverpool. (June, 1919.)
- *ROGERS, Col. J. M., D.S.O., F.Z.S., M.B.O.U. (late Royal Dragoons); Riverhill, Sevenoaks. (April, 1907.)
- ROGERS, Mrs.; Keston Mount, Talbot Road, Bournemouth. (Feb., 1925.)
- ROOPER, Mrs. F.; 11 Maze Hill, St. Leonard's-on-Sea. (Aug., 1924.)
- ROTHSCHILD, JAMES DE; 34 Park Street, W. 1. (March, 1923.)
- ROTHSCHILD, LIONEL DE, M.P.; 46 Park Street, W. 1. (Nov., 1913.)
- ROTHWELL, JAMES E.; 153 Sewall Avenue, Brookline, Mass., U.S.A. (Oct., 1910.)
- ROYAL ZOOLOGICAL SOCIETY OF IRELAND; Phoenix Park, Dublin. (Oct., 1905.)
- RUDD, W. A.; 180 Bishopsgate, E.C. 2. (Jan., 1927.)
- RUMSEY, LACY; 23 Rua de Serpa Pinto, Villa Nova de Gaya, Oporto, Portugal. (April, 1919.)
- RUSSELL, Mrs.; Oaklands, Hook, Basingstoke. (Aug., 1926.)
- RYAN, A. S.; Executive Engineer, P.W.D.; Jaipure State, Jaipure, India. (Aug., 1926.)
- RYCROFT, HARRY C.; 113 Balmoral Road, Morecambe, W.E. (July, 1926.)
- *ST. QUINTIN, WILLIAM HERBERT, F.Z.S., M.B.O.U.; Scampston Hall, Rillingon, York. (Orig. Mem.)
- SAKAI TATSUZO; 2 Chrome, Kano Cho, Kobe, Japan. (1919.)
- SALKELD, WILLIAM; Ravenswood, Kirkoswald, R.S.O., Cumberland. (June, 1922.)
- *SAMUELSON, Lady; Hatchford Park, Cobham, Surrey. (July, 1916.)
- SANDBACH, Miss VIOLET; 48 Cadogan Square, S.W. 1. (Dec., 1926.)
- SAWREY-COOKSON, Miss JUNE; 186 Cromwell Road, London, S.W. 5. (Sept., 1923.)
- SCHULZ, C.; Arusha, Tanganyika Territory. (July, 1926.)
- SCHUYL, D. G.; Kralingseheweg 332, Rotterdam, Holland. (Jan., 1914.)
- *SCLATER, W. L., M.A., F.Z.S.; 10 Sloane Court, S.W. 3. (Aug., 1904.)
- SCOTT, Capt. B. HAMILTON; Hamildean, Ipswich. (1912.)
- SCRIBE, Monsieur RENÉ; 38 Coupure, Gand, Belgium. (Oct., 1925.)
- *SEPPINGS, Lieut.-Col. J. W. H., F.Z.S.; c/o Lloyd's Bank, Ltd., Cox & King's Branch (K. Section), 6 Pall Mall, London, S.W. 1. (Sept., 1907.)
- *SETH-SMITH, DAVID, F.Z.S., M.B.O.U.; Zoological Society, Regent's Park, N.W. 8. (Dec., 1894.) (*Hon. Editor.*)
- SHAKESPEARE, WALTER; Sefton, St. George's Hill, Weybridge. (Aug., 1926.)
- SHANNON, Mrs. W. J.; Commandant's House, Lydd, Kent. (1915.)
- SHENSTONE, Mrs.; Chantry House, Hurstpierpoint, Sussex. (April, 1925.)
- SHERIFF, A., F.Z.S.; Edge Hill, 8 Ranulf Road, N.W. 2. (March, 1923.)
- SHIERS, Mrs. P. H.; Brookfield, Cheadle, Cheshire. (Jan., 1926.)
- *SICH, HERBERT LEONARD; Grayingham, Farncombe Road, Worthing, Sussex. (Feb., 1902.)
- SILVER, ALLEN, F.Z.S.; 18 Baneswell Road, Newport, Mon.

- SIMPSON, ARCHIBALD ; Stone Gappe, Bardsey, Yorks. (Feb., 1901.)
- SIMPSON, H. W. ; 6 Barry Road, Stonebridge, Willesden, N.W. 10. (Nov., 1924.)
- SLADE, G. J. ; 34 Milton Road, Fitzhugh, Southampton. (Feb., 1915.)
- SMALLWOOD, Miss VALENTINE ; 14 Buckingham Gate, S.W. 1. (Jan., 1926.)
- SMETZ-MONDEZ, Dr. J. G. ; La Hétraie, Genval, Belgium. (Aug., 1924.)
- SMITH, PARIS ; 3 Forest Rise, Walthamstow, E. 17.
- SMITH, W. PROCTOR, F.Z.S. ; Moorlands, Broad Road Sale, Manchester. (Nov., 1917.)
- SMITH, W. W. ; Cranmer, Dower Avenue, Wallington, Surrey. (April, 1920.)
- SNAPE, Major A. E., O.B.E. ; Malvern, Lower Walton, Warrington. (March, 1918.)
- SOUTHOFF, GEORGE DE, C.M.Z.S. ; 9-11 Via S. Spirito, Florence, Italy. (1921.) (*Hon. Mem.*)
- SOUTHPORT CORPORATION, CURATOR OF ; Hesketh Park, Southport. (Jan., 1904.)
- SPEED, Mrs. J. E. ; Mearacot, Ruislip, Middlesex. (Sept., 1926.)
- SPRAWSON, EVELYN ; M.C., M.R.C.S., F.Z.S., 68 Southwood Lane, Highgate, N. 6. (June, 1923.)
- SPROSTON, Mrs. ; Elm House, Nantwich, Cheshire. (June, 1917.)
- SPURWAY, N. B. ; Glenwood, Stoneygate, Leicester. (April, 1923.)
- STARK, J. ; Woods Cottage, Haddington, Scotland. (Jan., 1924.)
- STENT, STIRLING ; Beechlands, Bedhampton, Havant, Hants. (March, 1924.)
- STERRETT, H. R. ; Roseway, Hooper Avenue, Pennsylvania, Exeter, S. Devon. (Feb., 1926.)
- STEVENS, H. ; c/o Midland Bank, Ltd., Tring. (Oct., 1911.)
- STEWART, JOHN, M.B.O.U. ; The Hermitage, Elstead, Surrey. (June, 1926.)
- STILEMAN, G. R. ; Stamford, West Byfleet, Surrey. (Dec., 1925.)
- STILLMAN, PAUL F. ; 545 Westminster Avenue, Elizabeth, N.J., U.S.A. (Nov., 1923.)
- STOKES, Capt. H. S., F.Z.S. ; Longdon, Stafford. (Oct., 1922.)
- STOREY, Mrs. A. ; Hawling Manor, Andoverford, Glos. (Nov., 1912.)
- STRUBEN, Mrs. F. ; Spitchwick Manor, Ashburton, S. Devon. (Jan., 1923.)
- STURDY, Mrs. ALAN ; Carey, Wareham, Dorset. (Aug., 1926.)
- SUGGITT, ROBERT ; Suggitt's Lane, Cleethorpes, Grimsby. (Dec., 1903.)
- SUGGITT, W. E. ; Suggitt's Lane, Cleethorpes, Grimsby. (Jan., 1915.)
- SUMMERSKILL, C. C. ; 19 Alma Road, Winton, Bournemouth. (March, 1925.)
- SUTCLIFFE, ALBERT, F.Z.S. ; Beechfield, Grimsby. (Feb., 1906.)
- SWAYNE, HENRY A. ; 29 Perey Place, Dublin. (Jan., 1913.)
- SYKES, JOHN ; Home Park Cottage, Inveresk, Musselburgh. (Jan., 1912.)
- TAKANO, T. Z. ; Koyama, 28 Asagaya, Soginamimachi Toyotamagun, Tokyo-fu, Japan. (Jan., 1921.)
- TAKA-TSUKASA, PRINCE NOBUSUKE, F.Z.S. ; 106 Honmuracho, Azabu, Tokyo, Japan. (Feb., 1914.)

- *TANNER, Dr. FRANK L. ; Vanvert House, Guernsey. (Jan., 1914.)
- TARONGA ZOOLOGICAL PARK TRUST ; Mosman, Sydney, Australia. (Aug., 1913.)
- *TAVISTOCK, The Marquess of, F.Z.S. ; Warblington House, Havant, Hants. (1912.)
- TENNANT, Hon. STEPHEN ; Mulberry House, 37 Smith Square, S.W. 1. (April, 1926.)
- TESCHEMAKER, W. E., B.A. ; Ringmore, Teignmouth, Devon. (May, 1904.)
- *THOM, ALFRED A. ; Whitewell Lodge, Whitchurch, Salop. (June, 1913.)
- THOMAS, HENRY ; 15 Clinning Road, Birkdale, Southport. (Jan., 1895.)
- THOMASSET, BERNARD C., F.Z.S. ; Seend, Near Melksham, Wilts. (July, 1896.)
- THOMSON, Dr. ; Bankstown, near Sydney, Australia. (Jan., 1926.)
- THOMPSON, Mrs. A. C. ; Glaisdale, Ely, Cambs. (Dec., 1924.)
- THORNHILL, Col. C. J. M., C.M.G., D.S.O. ; Sevenacres, Binfield, nr. Bracknell, Berkshire. (Oct., 1925.)
- TODD, HORATIO ; Bromleigh, Neill's Hill, Belfast. (Aug., 1924.)
- TOKUDA, S. ; 97 Nakamura-Machi, Yokohama, Japan. (Aug., 1926.)
- TOMLINSON, MALCOLM R. ; Shepherd's House, Inveresk, Midlothian. (April, 1913.)
- TOWNSEND, S. M. ; 3 Swift Street, Fulham, London, S.W. (*Orig. Mem.*)
- TRANSSVAAL MUSEUM ; The Director, Transvaal Museum, Pretoria. (Jan., 1921.)
- TRAVERS, Mrs. J. ; Windmill Cottage, Mayfield, Sussex. (Dec., 1903.)
- TURNER, HERBERT J. ; Tremadoc, Keyberry Road, Newton Abbott. (Jan., 1925.)
- UPPINGHAM SCHOOL ; the School Library, The Old School House, Uppingham. (Nov., 1920.)
- VALENTINE, ERNEST ; 7 Highfield, Workington. (May, 1899.)
- VAN HEYST, A. ; Wyk by Duurstede, Holland. (July, 1924.)
- VAN TOMME, ERNEST ; 4 Rue de Mouseron, Courtrai, Belgium. (Jan., 1923.)
- VENNER, Rev. P. K. ; c/o Mrs. Roekett, Chart Corner, Chart Lane, Reigate, Surrey. (April, 1923.)
- VENNING, H. C. ; Willett, Bicknaller, Taunton. (Jan., 1927.)
- VOIGT, WALTER ; 13, Feodorastrasse, Jena, Germany. (Jan., 1926.)
- WADDELL, Miss E. G. R. PEDDIE ; 4 Great Stuart Street, Edinburgh. (Feb., 1909.)
- WALKER, Miss H. K. O. ; Chesham, Bury, Lancs. (Feb., 1895.)
- WALL, Mrs. ; Meadowside, Marlborough, Wilts. (Nov., 1924.)
- WARD, Mrs. NELSON ; Stoke Dorothy, Westburton, Pulborough, Sussex. (Sept., 1926.)
- *WARNEFORD, WALTER W. H., O.B.E. ; The Wyndhams, Torbay Road, Torquay. (Oct., 1926.)
- *WARNEFORD, Mrs. ; The Wyndhams, Torbay Road, Torquay. (Oct., 1926.)
- WASHINGTON, S. ; 47 Prospect Park West, Brooklyn, N.Y., U.S.A. (Jan., 1924.)

WAUD, Capt. L. REGINALD, F.Z.S. ; Falcon Close, Woolton Hill, near Newbury. (May, 1913.)

WAVERTREE, Lady ; Sussex Lodge, Regent's Park, N.W. 1. (Aug., 1926.)

WAXMAN, A. E. WRIGHT DE BERRI ; Maitai, Murray Road, Beecroft, N.S.W. (Aug., 1914.)

WEAVER, Mrs. H. H. ; New Hope, Bucks Co., Penna, U.S.A. (Dec. 1924.)

WEDGE, E. ; Overdale, Chorley Wood, Rickmansworth, Herts. (Feb., 1915.)

WEIL, HARRY ; 443 West 13th Street, New York City, N.Y., U.S.A. (Feb., 1924.)

WEIR, J. ; Douglas Cottage, Ashley, New Milton, Hants. (July, 1918.)

WELCH, F. D., M.R.C.S., L.R.C.P. ; Hartley, Longfield, Kent. (March, 1920.)

*WELLINGTON, Her Grace the Duchess of ; Ewhurst Park, Basingstoke. (Oct., 1913.)

WESTON, DENYS ; 19 Strand, Dawlish, S. Devon. (Feb., 1926.)

WHALE, CYRIL M., F.Z.S. ; 289 Brixton Road, S.W. 9. (Feb., 1925.)

WHIPHAM, Mrs. U. F., F.Z.S. ; 34 Westbourne Park Road, W. 2 ; and St. Loyes, Heavitree, Exeter. (July, 1921.)

WHITE, JOHN YORK ; Celandine, 138 Verdant Lane, Catford, S.E. 6. (Jan., 1925.)

WHITLEY, HERBERT, F.Z.S. ; Primley Hill, Paignton, S. Devon. (Sept., 1923.)

WILDEROER, Dr. H. G. ; Burnbrae, Holderness Road, Hull. (1924.)

WILLFORD, HENRY ; Sans Souci, Havenstreet, Ryde, Isle of Wight. (Nov., 1907.)

WILLIAMS

WILLIAMS, SIDNEY, F.Z.S. ; Oakleigh, 110 Riverway, Palmer's Green, London, N. 13. (Oct., 1910.)

WILLIAMSON, T. F. M. ; 580 5th Avenue, San Francisco, California, U.S.A. (Aug., 1917.)

WILLIS, Mrs. ; Lymecrest, Coleraine Road, Portrush, Ireland (North). (April, 1925.)

WILLS, LADY ; Littlecote, Hungerford. (March, 1924.)

WILSON, Miss F. M. ; 15 Goldsmith Avenue, Acton, Middlesex. (March, 1906.)

*WILSON, Dr. MAURICE A. ; Walton Lodge, Pannal, Harrogate. (Oct., 1905.)

WINTER, DWIGHT ; Center and Negley Avenue, Pittsburg, Pa., U.S.A. (1922.)

WOOD, Dr. CASEY, F.Z.S. ; McGill University Library, Montreal, Canada. (Sept., 1922.)

WOODWARD, KENNETH M. ; Chappaqua, New York, U.S.A. (March, 1915.)

WORKMAN, WILLIAM HUGHES, F.Z.S., M.B.O.U. ; Lismore, Windsor Avenue, Belfast. (May, 1903.)

*WORMALD, HUGH, F.Z.S. ; Heathfield, East Dereham, Norfolk. (Dec., 1904.)

WORSLEY, Rev. H. M. ; Burneston Viarage, Bedale, Yorks. (May, 1925.)

WYKES, W. H. ; Cricklewood, Dandenong Road, Frankston, Victoria, Australia. (Oct., 1926.)

ZOOLOGICAL SOCIETY OF PHILADELPHIA : 34th Street, and Girard Avenue, Philadelphia, Penn., U.S.A. (Jan., 1920.)

ZUG, Mrs. CHARLES GORDON ; 925 Ridge Avenue, N.S., Pittsburg, Pa., U.S.A. (Jan., 1926.)

Rules of the Avicultural Society

As amended, December, 1924

1.—The name of the Society shall be THE AVICULTURAL SOCIETY, and its object shall be the study of Foreign and British Birds in freedom and in captivity. Poultry, Pigeons, and Canaries shall be outside the scope of the Society. The year of the Society, with that of each volume of the Society's Magazine, which shall be known as *The Avicultural Magazine*, shall commence with the month of January and end on the 31st of December following.

2.—The Avicultural Society shall consist of Ordinary and Honorary Members, and the latter shall be restricted in number to six, and be elected by the Council.

3.—The Officers of the Society shall be elected, annually if necessary, by members of the Council in the manner hereinafter provided, and shall consist of a President, one or more Vice-Presidents, a Secretary, an Editor, a Treasurer, an Auditor, a Scrutineer, and a Council of eighteen members. The Secretary, Editor, and Treasurer shall be *ex officio* Members of the Council.

4.—New Members shall be proposed in writing, and the name and address of every person thus proposed, with the name of the Member proposing him, shall be published in the next issue of the Magazine. Unless the candidate shall, within two weeks after the publication of his name in the Magazine, be objected to by at least two Members, he shall be deemed to be duly elected. If five members shall lodge with the Secretary objections to any candidate he shall not be elected, but the signatures to the signed objections must be verified by the Scrutineer. If two or more Members (but less than five) shall object to any candidate, the Secretary shall announce in the next number of the Magazine that such objections have been lodged (but shall not disclose the names of the objectors), and shall request the Members to vote upon the question of the election of such candidate. Members shall record their votes in sealed letters addressed to the Scrutineer, and a candidate shall not be elected unless two-thirds of the votes recorded be in his favour; nor shall a candidate be elected if five or more votes be recorded against his election.

5.—Each Member shall pay an annual subscription of £1, to be due and payable in advance on the 1st of January in each year. New Members shall pay, in addition, an entrance fee of 10s. 6d.; and, on payment of their entrance fee and subscription, they shall be entitled to receive all the numbers of the Society's Magazine for the current year.

6.—Members intending to resign their membership at the end of the current year of the Society are expected to give notice to the Secretary before the 1st of December, so that their names may not be included in the "List of Members", which shall be published annually in the January number of the Magazine.

7.—The Magazine of the Society shall be issued on or about the first day of every month, and forwarded, post free, *to all the Members who shall have paid their subscriptions for the year ; but no Magazine shall be sent or delivered to any Member until the annual subscription shall have reached the hands of the Business Secretary or the Publishers.* Members whose subscriptions shall not have been paid as above by the first day in November in any year shall cease to be Members of the Society, and shall not be re-admitted until a fresh entrance fee, as well as the annual subscription, shall have been paid.

8.—The Secretary, Editor, and Treasurer shall be elected for a term of five years, and, should a vacancy occur, it may be temporarily filled up by the Executive Committee (see Rule 10). At the expiration of the term of five years in every case it shall be competent for the Council to nominate the same officer, or another Member, for a further time of five years, unless a second candidate be proposed by not less than twenty-five Members of at least two years' standing, as set forth below.

In the November number of the Magazine preceding the retirement from office of the Secretary, Editor, or Treasurer, the Council shall publish the names of those members whom they have nominated to fill the vacancies thus created ; and these members shall be deemed duly elected unless another candidate or candidates be proposed by not less than fifteen Members of at least two years' standing. Such proposal, duly seconded and containing the written consent of the nominee to serve, if elected, in the capacity for which he is proposed, must reach the Secretary on or before the 15th of November.

The Council shall also publish yearly in the November number of the Magazine the names of those members nominated by them for the posts of Auditor and Scrutineer respectively.

9.—The Members of the Council shall retire by rotation, two at the end of each year of the Society (unless a vacancy or vacancies shall occur otherwise) and two other Members of the Society shall be recommended by the Council to take the place of those retiring. The names of the two Members recommended shall be printed in the November number of *The Avicultural Magazine*. Should the Council's selection be objected to by fifteen or more Members, these shall have power to put forward two other candidates, whose names, together with the signatures of no less than fifteen Members proposing them, must reach the Hon. Secretary *by the 15th of November*. The names of the four candidates will then be printed on a voting paper and sent to each Member with the December number of the Magazine, and the result of the voting published in the January

issue. Should no alternative candidates be put forward, in the manner and by the date above specified, the two candidates recommended by the Council shall be deemed to have been duly elected. In the event of an equality of votes the President shall have a casting vote.

If any Member of the Council does not attend a meeting for two years in succession the Council shall have power to elect another member in his place.

10.—Immediately after the election of the Council that body shall proceed to elect three from its Members (*ex officio* Members not being eligible). These three, together with the Secretary, Treasurer, and Editor, shall form a Committee known as the Executive Committee. Members of the Council shall be asked every year (whether there has been an election of that body or not) if they wish to stand for the Executive, and in any year when the number of candidates exceeds three there shall be an election of the Executive.

The duties of the Executive Committee shall be as follows :—

(i) To sanction all payments to be made on behalf of the Society.

(ii) In the event of the resignation of any of the officers during the Society's year, to fill temporarily the vacancy until the end of the year. In the case of the office being one which is held for more than one year (e.g. Secretary, Editor, or Treasurer) the appointment shall be confirmed by the Council at its next meeting.

(iii) To act for the Council in the decision of any other matter that may arise in connexion with the business of the Society.

The decision of any matter by the Executive to be settled by a simple majority (five to form a quorum). In the event of a tie on any question, such question shall be forthwith submitted by letter to the Council for their decision.

The Executive shall not have power

(i) To add to or alter the Rules ;

(ii) To expel any Member ;

(iii) To re-elect the Secretary, Editor, or Treasurer for a second term of office.

It shall not be lawful for the Treasurer to pay any account unless such account be duly initialled by the Executive.

It shall be lawful for the Secretary or Editor to pledge the Society's credit for a sum not exceeding £15.

Should a Member wish any matter to be brought before the *Council* direct such matter should be sent to the Secretary with a letter stating that it is to be brought before the Council at their next meeting, otherwise communications will in the first place be brought before the Executive.

A decision of a majority of the Council, or a majority of the Executive endorsed by the Council, shall be final and conclusive in all matters.

11.—The Editor shall have an absolute discretion as to what matter shall be published in the Magazine (subject to the control of the Executive Committee). The Secretary and Editor shall respectively refer all matters of doubt and difficulty to the Executive Committee.

12.—The Council (but not a committee of the Council) shall have power to alter and add to the Rules, from time to time, in any manner they may think fit. Five to form a quorum at any meeting of the Council.

13.—The Council shall have power to expel any Member from the Society at any time without assigning any reason.

14.—Neither the office of Scrutineer nor that of Auditor shall be held for two consecutive years by the same person.

15.—The Scrutineer shall not reveal to any person how any Member shall have voted.

The Society's Medal

RULES

The Medal may be awarded at the discretion of the Committee to any Member who shall succeed in breeding, in the United Kingdom, any species of bird which shall not be known to have been previously bred in captivity in Great Britain or Ireland. Any Member wishing to obtain the Medal must send a detailed account for publication in the Magazine within about eight weeks from the date of hatching of the young, and furnish such evidence of the facts as the Executive Committee may require. The Medal will be awarded only in cases where the young shall live to be old enough to feed themselves, and to be wholly independent of their parents.

The account of the breeding must be reasonably full so as to afford instruction to our Members, and must appear in the AVICULTURAL MAGAZINE before it is published or notified elsewhere. It should describe the plumage of the young, and *be of value as a permanent record of the nesting and general habits of the species*. These points will have great weight when the question of awarding the Medal is under consideration.

In every case the decision of the Committee shall be final.

The Medal will be forwarded to each Member as soon after it shall have been awarded as possible.

The Medal is struck in bronze (but the Committee reserve the right to issue it in *silver* in very special cases) and measures $2\frac{1}{2}$ inches in diameter. It bears on the obverse a representation of two birds with a nest containing eggs, and the words "The Avicultural Society—founded 1894". On the reverse is the following inscription: "Awarded to [*name of recipient*] for rearing the young of [*name of species*], a species not previously bred in captivity in the United Kingdom."

The Council may grant a special medal to any member who shall succeed in breeding any species of bird that has not previously been bred in captivity in Europe.

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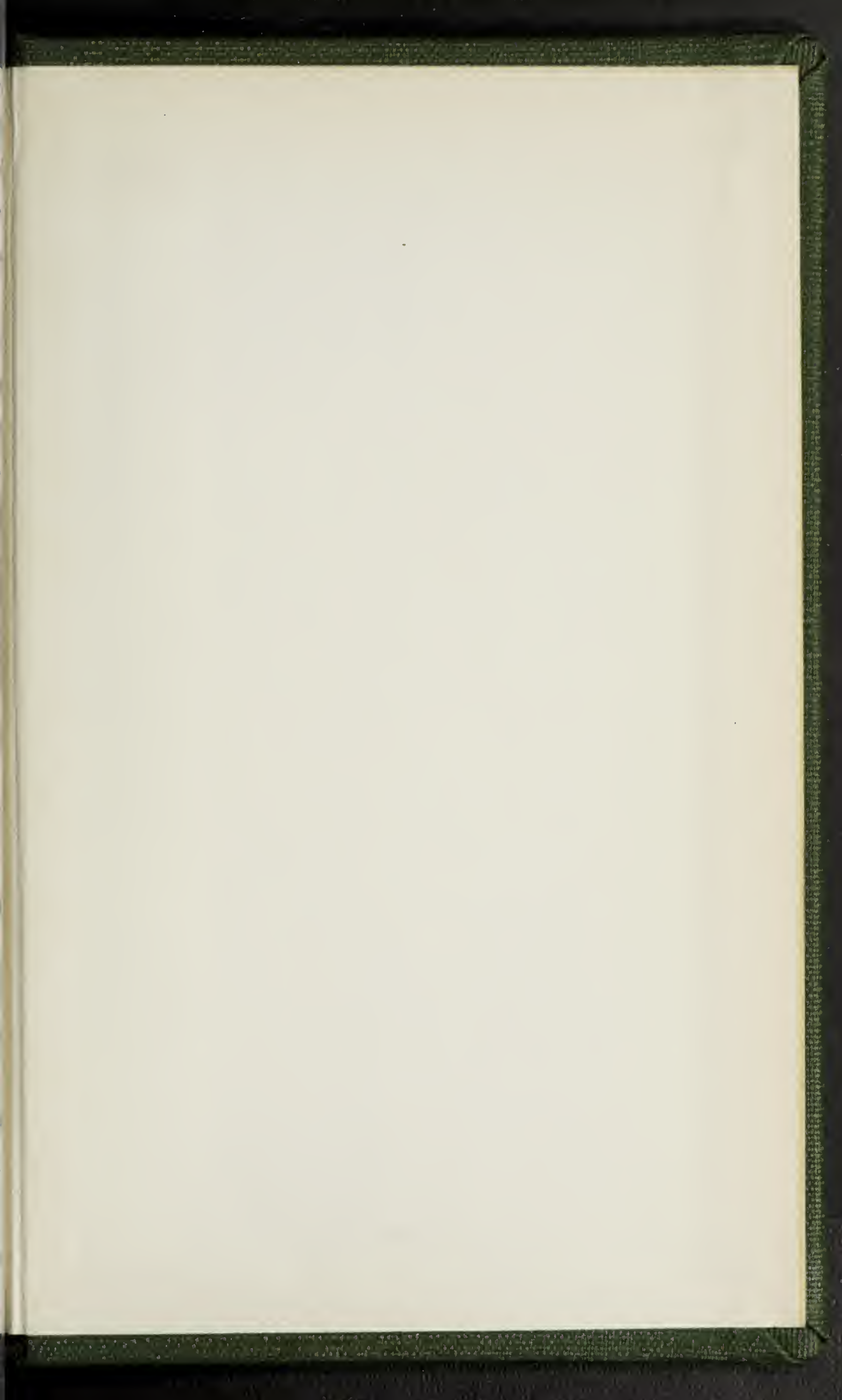
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